JANUARY
1952

Annual
Oilheating
Analysis

fueloil & oil heat

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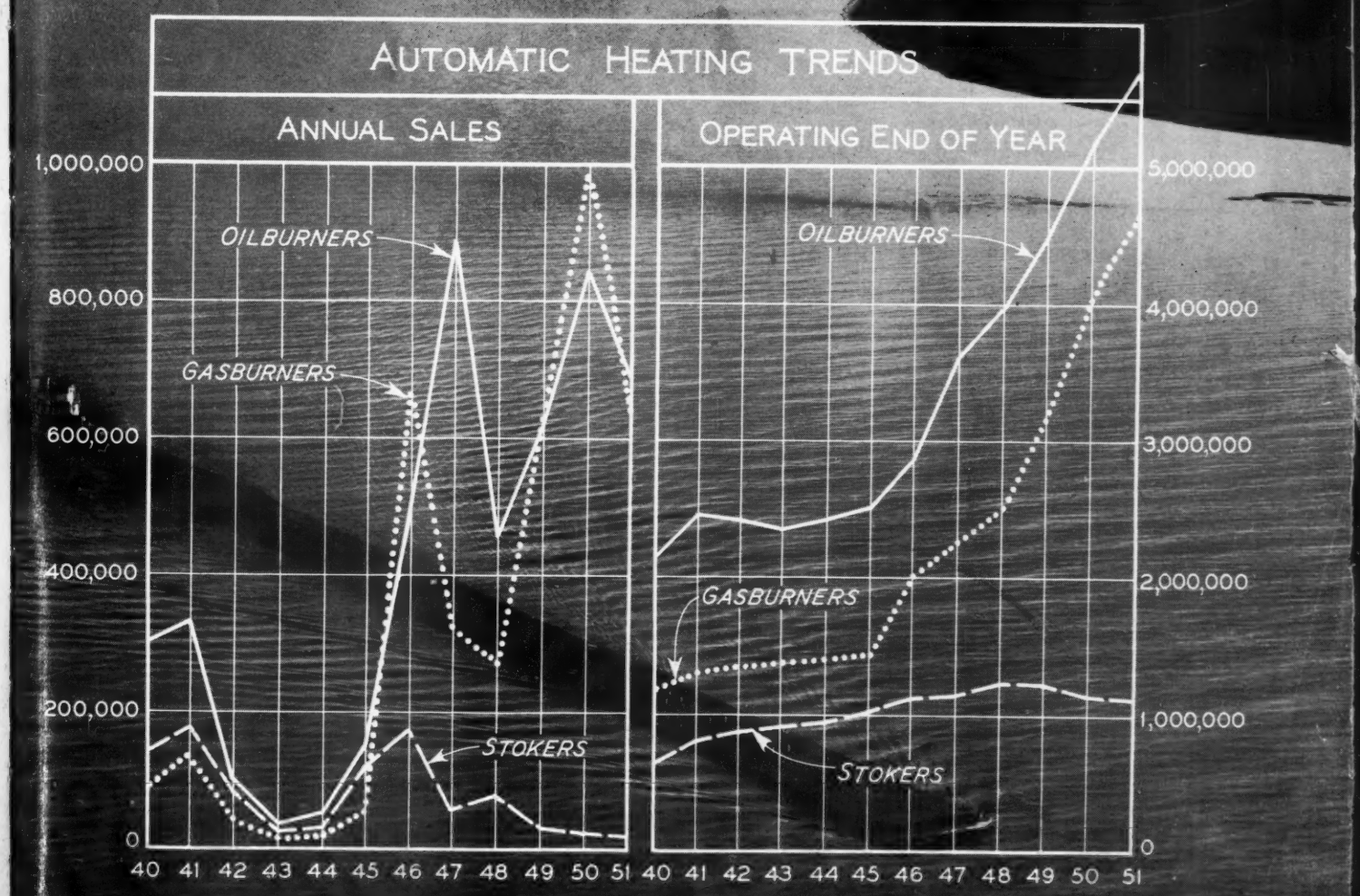

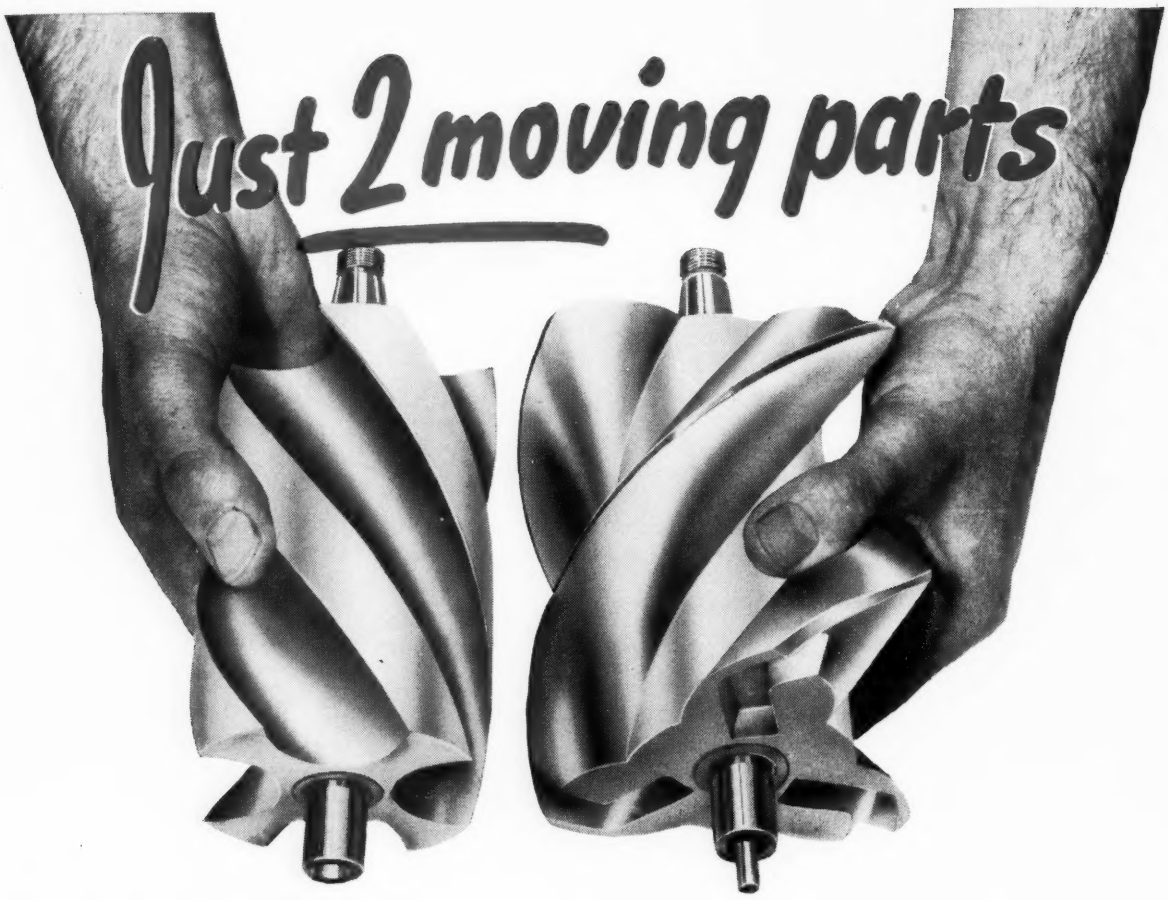

...in the BRODIE *BiRotor* Measuring Unit

- **Two simple spiral rotors comprise the measuring unit**
- **No complex reciprocating parts to cause lost motion**
- **No metal-to-metal contact to result in friction and wear**
- **Positive displacement assures high capacity**
- **Dynamic balance insures smooth vibrationless operation**
- **Readily replaceable measuring unit provides quick change-over**
- **Welded steel housing avoids damage and leak hazards**

Employing the true rotary principle, Brodie BiRotor positive displacement measuring unit has set new standards of trouble-free performance with free flow characteristics. For the finest in reliable metering of liquid petroleum products, specify Brodie BiRotor—*the meter with the replaceable measuring unit.*

BRODIE ALL-STEEL BiRotor TRUE-ROTARY METERS

RALPH N. BRODIE CO., INC. • 61st & LOWELL STREETS, OAKLAND 8, CALIFORNIA, U.S.A.

Division Offices: 550 SO. COLUMBUS AVE., MT. VERNON, N.Y. • 59 E. VAN BUREN, CHICAGO 5, ILL. • 302 SO. PEARL STREET, DALLAS, TEXAS
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JANUARY Fueloil & oilheat 1952

VOLUME 11 NUMBER 1

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ENTERED AS SECOND CLASS MATTER AT THE POST OFFICE AT BALTIMORE, MD.

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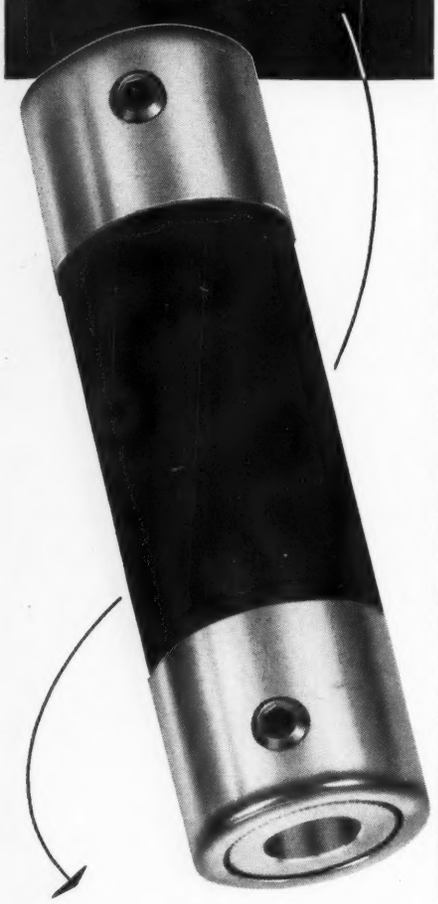
Among other things . . .

This being the January issue it presents our regular annual oilheating analysis in the first four features. The lead article contains a report on the number of oilburners and units sold, the types of oilburners that were used, wholesale price trends and estimates of the business done last year by competitive fuels.

The next three analyses are of principal interest to dealers and include a general discussion of dealer operations. Then follows an appraisal of burner service practices and trends and a third study prepared primarily for fueloil departments. This is concerned with operating conditions, costs and margins, storage characteristics, consumer storage capacity and many other facets of fueloil distribution.

About the usual amount of midnight oil was burned in compiling the statistics from which these articles were prepared, but because the information is vital and factual, we think it's well worth it.

THE ONLY ONE-PIECE RUBBER FLEXIBLE COUPLING



with FLOATING BUSHINGS

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Our 25th Year

FLEXIBLE COUPLING MFG. CO.
8145 South Dobson Avenue
Chicago 19, Illinois

Names in the News

C. S. *Stackpole,* reported in the December issue as manager of the Williams Oil-O-Matic Div., Eureka Williams Corp., Bloomington, Ill., actually has been appointed vice-president in charge of the Division. He fills a position vacant since L. A. Casler, executive vice-president of the corporation and former head of the heating division, was put in charge of defense work and overall production early this year. Before joining Williams, Stackpole was vice-president and general sales manager, Airtemp Div.

Iswal W. *Parrit* has been named district manager in charge of sales and service for Controls Division, Perfex Corp., Milwaukee, Wisc., with headquarters in Portland, Oregon. Parri joined the engineering department of the Perfex Controls Division in 1936. He was controls service manager and field education director.

F. J. Laughna and *M. T. Bard* have been named assistant sales managers, Airtemp Div., Chrysler Corp., Dayton, Ohio and *S. R. Prugh* has been named administrative assistant to the general sales manager, J. F. Knoff. Laughna has been with Chrysler for 18 years and moved to Airtemp in 1940 as assistant to the merchandising manager. Last year he was promoted to administrative assistant to the vice-president. Bard, who joined Airtemp in 1941 as director of commercial refrigeration sales, since 1950 has been director of both national account and packaged air conditioning sales. Prugh, with Airtemp since 1942, for the past five years has been assistant budget director. Other changes in the sales staff: *A. F. Ward,* sales director, to manager of sales training; *W. B. Magill,* advertising supervisor to manager of advertising; *J. J. McMahon,* sales promotion supervisor, to manager of sales promotion; *L. E. Epley,* sales supervisor, to manager of sales records; *M. J. Leonard,* product supervisor, to assistant manager of application engineering and *H. P. Young,* field engineer, to special heating representative.

C. W. Burton, Jr., has been elected executive vice-president, Anchor Post Products, Inc., Baltimore, Md. He fills the vacancy caused by the recent death of Robert D. Logee and formerly held the office of vice-president and treasurer. *John G. Gross,* former assistant treasurer, was elected treasurer.

W. Chalmers Burns, president of Hartol Petroleum Corp., has been elected chairman of the New York-New Jersey district of the Oil Industry Information Committee. He is the first officer of an independent oil company to hold this position since the founding of OIIC in 1946 and succeeds George D. McDaniel, manager of the eastern marketing region, Socony-Vacuum Oil Co.

W. J. Chappell, regional manager for Timken Silent Automatic Div., Jackson, Mich., is now covering the states of Michigan, Ohio, Indiana, Tennessee, Kentucky and West Virginia. *Felix Huber* has taken over his former territory, embracing Iowa, Illinois, Missouri, Nebraska and Kansas. Chappell first joined Timken Silent Automatic in 1932, subsequently served in various advertising and sales

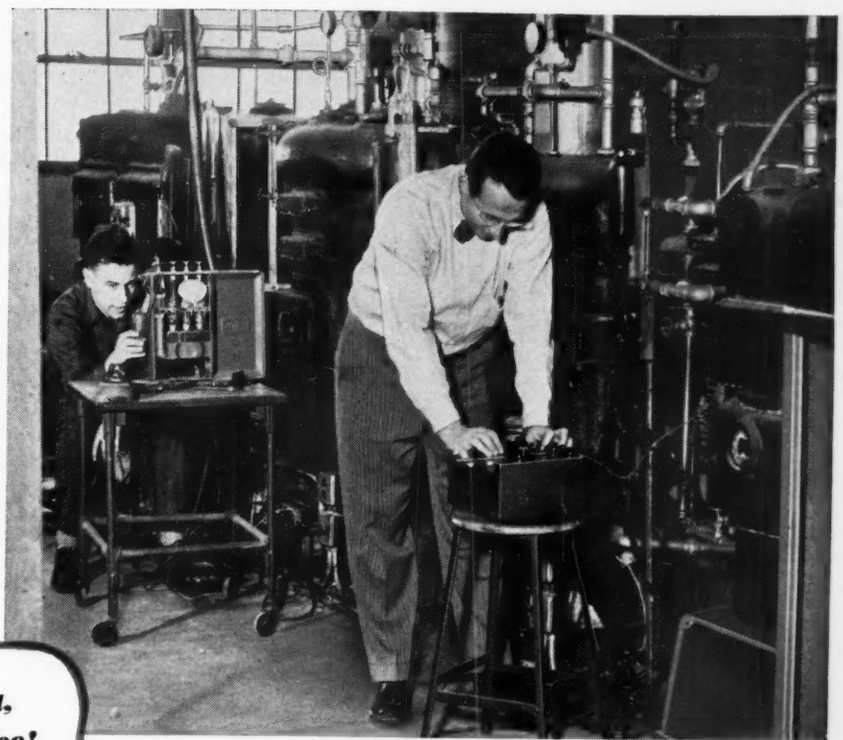
Chapell

Huber

"Sell the line that's Quality-Engineered — *FLUID HEAT!*"

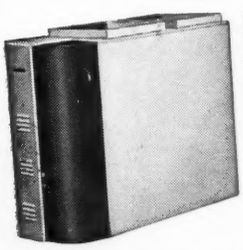
"If You'd Ever been through the Fluid Heat Engineering Laboratories and plant, you'd know, as I know, *the quality that's engineered into every unit!* That's mighty important to dealers —it's our assurance of more satisfied customers and fewer unprofitable 'nuisance' service calls.

"Throughout the years, Fluid Heat's Engineering Department has come up with many of the industry's 'firsts' and exclusives. You can be sure, when you handle the Fluid Heat line, that you sell the finest units available . . . for any size installation. It really pays to have a Fluid Heat Franchise!"

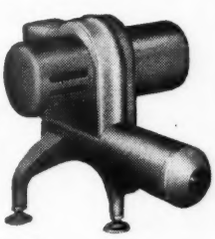


⬆Testing operations being conducted in one section of Fluid Heat's large Engineering Laboratories. Other facilities are devoted to research and design—all aimed at maintaining Fluid Heat's leadership in the field of Heating Equipment.

Big, complete line is easy to sell, easy to install, easy to service!



Famous Fluid Heat Winter Air Conditioning Furnaces. Vertical and horizontal models, ranging from 70,000 to 200,000 BTU per hour.



Famous Fluid Heat Pressure Burners. Four models, with firing rates from 7/10 to 12 gallons per hour.

Famous Fluid Heat Wall Flame Rotary Burners. Two models with firing rates from ½ to 4½ gallons per hour.

Famous Fluid Heat Boiler Burner Units. Six models, rated from 300 to 1090 sq. ft. of standing steam.

...and when you tie in with Fluid Heat you're backed by

Smashing advertisements in

POST

Better Homes and Gardens

that tell millions of consumers about Fluid Heat quality!

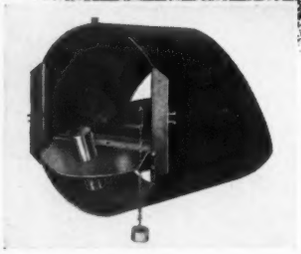
fluid heat
HEATING EQUIPMENT

Manufactured by ANCHOR POST PRODUCTS, INC.
Baltimore 24, Maryland Established 1892
"WORLD'S ECONOMY CHAMPION"

fueloil & oilheat

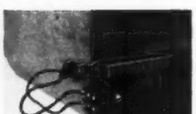
it's another Field First and Best!

The "M-G" Double-Acting Field Draft Control for gas Fired Heating Plants*



*Available at present in commercial sizes only.

Optional auxiliary switch will close main gas valve or sound alarm in case of blocked flue or prolonged down-draft, preventing escape of carbon monoxide into building.



Now there's a Field for gas, too! And the same accuracy and sensitivity that have made Field first for coal and oil-fired heating plants make the new Field "M-G" first for gas-fired heating plants. It's the first and only barometric draft control engineered exclusively for gas. Write today for complete details.

THE DRAFT CONTROL
. . . that's advertised nationally in *BETTER HOMES & GARDENS*

Field CONTROL DIVISION
of H. D. Conkey & Company, Mendota, Illinois
AFFILIATES:
Conco Building Products, Inc. • Brick, Tile, Stone
Conco Engineering Works • Heating Equipment

positions and for the past three years has been a regional manager. Huber, a veteran of 15 years in the heating industry, joined Timken in 1949 as a district sales manager and before then had served as a wholesale distributor for Delco Appliance Division.

Herbert Willetts, elected to the board of directors of Socony-Vacuum Oil Co., New York, N. Y., will be in charge of domestic marketing operations and succeeds *Albert L. Nickerson.* Nickerson, a director for the past five years, has become vice-president and director in charge of foreign markets, taking over from Walter L. Faust, who is relinquishing his heavy duties on the advice of his physician.

James J. Laundergan has been appointed sales promotion manager of Refrigeration Corp. of America and its Lonergan Div., Albion, Mich. He has been connected with the refrigeration and appliance industry for the past 19 years. Laundergan announced that the Lonergan Div. will add several new oil space heaters to its present line of dehumidifiers and fans in addition to expanding its sales force and list of nationwide distributorships.

Cyrus S. Gentry, vice-president and general counsel of Shell Oil Co., succeeds Oscar John Dorwin as chairman of the American Petroleum Industries Committee of the American Petroleum Institute. *Joseph P. Walsh,* general counsel of Sinclair Oil Corp., replaces Mr. Gentry as secretary of A.P.I.C. *Baird H. Markham,* 18 years director of A.P.I.C., retires and *John H. Bivins,* formerly associate director, is appointed in his place. The newly-named assistant director is *Adam J. Rumoshosky,* who has been acting in that capacity since early this year.

Dr. Arthur B. Hersberger has been appointed manager of product sales div. of Atlantic Refining Co., Phila., Pa. Dr. Hersberger jointed Atlantic in 1936 as an associate chemist, becoming divisional director, in 1944, of the company's research and development department before his appointment as manager of the chemical products section in 1947. John Martin Hoerner succeeds Dr. Hersberger as manager of the chemical products section.

Lon E. Russell has been named sales engineer of the Machinery Division, Dravo Corp., Pittsburgh 25, Pa., for the metropolitan New York territory. Mr. Russell will handle the sales of Dravo Counterflo Heaters. A native Pittsburgher, Mr. Russell attended the University of Pittsburgh.

P. C. Thomas, who has been sales manager of the Pacific Coast territory, has succeeded H. G. Swanson, retired, as general sales manager of Shell Oil Co., N. Y. 20, N. Y., for the Eastern United States. In the absence of the vice-president, he is in charge of Shell's marketing activities nation-wide. Mr. Thomas joined Shell as a salesman in 1932, became St. Louis division manager in 1940 and by 1948 was manager of the Southern California division.

Robert E. Kurrasch has been appointed Chicago district manager for the Controls Div., Perfex Corp., Milwaukee, Wis., and will cover the states of Illinois and Iowa. He was a sales engineer with Unistrut Products Co., Chicago, before joining Perfex.

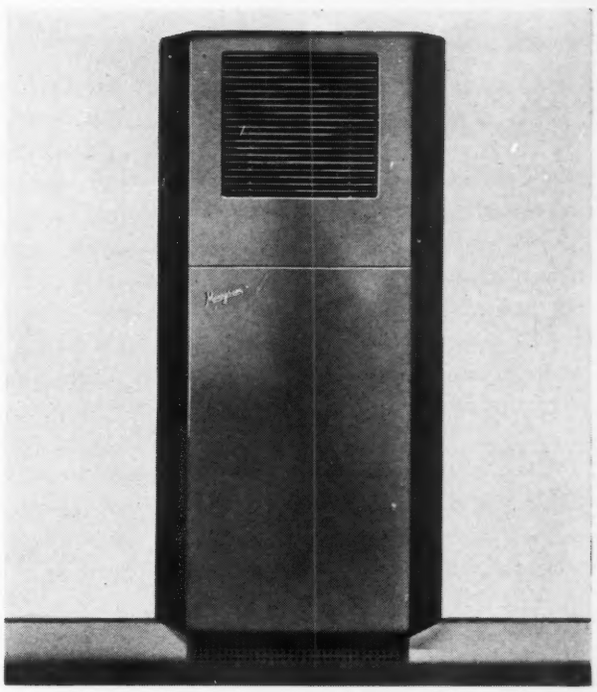
Frank C. Colegrove has been named to the newly-created post of executive vice-president of Allied Oil Co., Cleveland, O. He previously served as assistant to the president and vice-president and prior to that was assistant to the vice-president of Republic Oil Co., Pittsburgh, Pa. for five years, operations manager for Upper Mississippi Towing Corp., Minneapolis, Minn. During World War II Colegrove helped organize the Inland Waterways Section of the Transportation Division of PAW before joining Allied Oil.

When the Problem is LOW-COST Heating...

...the answer is *Monogram*

THAT'S a fact! There isn't a better answer to the problem of supplying clean, abundant heat in a small home than the MONOGRAM Oil Furnace shown here.

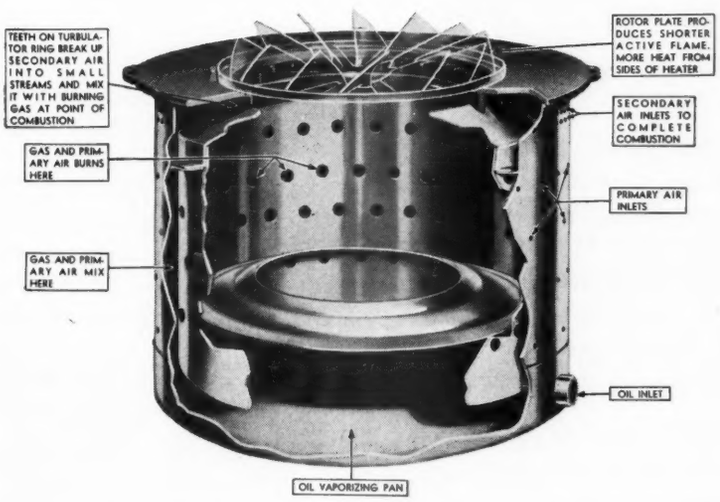
It's a well designed unit which will fit in with any scheme of decorations, and as usual dependable MONOGRAM performance will supply years and years of comfortable, care-free heat at low cost. Each unit is equipped with the Power Air Burner that gets as much heat as possible from every single drop of oil, burning with a clean, blue flame. Small wonder your customers will report less oil consumption and a pleasant winter of clean, even heat.



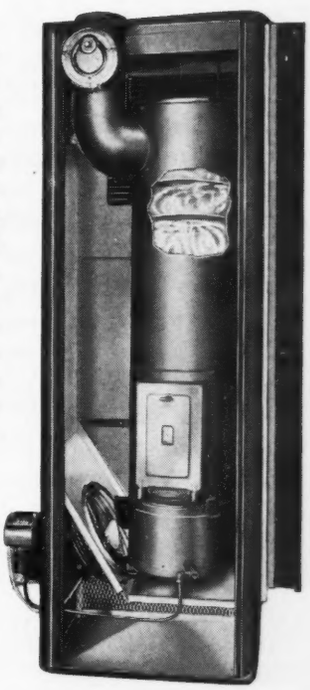
AND HERE'S PROOF...

THE POWER AIR BURNER

THAT PRODUCES MORE HEAT AT LESS COST


TEETH ON TURBULATOR RING BREAK UP SECONDARY AIR INTO SMALL STREAMS AND MIX IT WITH BURNING GAS AT POINT OF COMBUSTION
GAS AND PRIMARY AIR BURNS HERE
GAS AND PRIMARY AIR MIX HERE
ROTOR PLATE PRODUCES SHORTER ACTIVE FLAME. MORE HEAT FROM SIDES OF HEATER
SECONDARY AIR INLETS TO COMPLETE COMBUSTION
PRIMARY AIR INLETS
OIL INLET
OIL VAPORIZING PAN

The exclusive Power Air Burner produces more Btu's of heat for its size because it is more efficient. It has a wider range of operation for its size — works with equal efficiency during mild weather or really rough cold spells. And just as important it burns with a clean, blue flame much the same as a gas burner. The MONOGRAM Power Air Burner produces more heat at less cost . . . let us prove it to you.



SPECIFICATIONS A569 MONOGRAM OIL FURNACE

BTU Rating	65,000	Gauge Baffle	18
Combustion Drum	13x48	Gauge of Combustion Drum	20
Height from floor of front of cabinet	74½	Maximum Oil Consumption per 24 hours	Gal. 14¾
Height from floor of back of cabinet	72	Minimum Oil Consumption per 24 hours	Gal. 1¼
Width of Front	32	Grade Distillate recommended	#1
Width of Back	24	Motor	.45 watt—1500 RPM
Flue Outlet	6"	(High Impedance Protected)	
Burner	10"	Shipping Weight	300 lbs.
Gauge Casing	20		

THE QUINCY STOVE MANUFACTURING COMPANY

QUINCY **ILLINOIS**

Editorial Leaks

FOR THIS ANNUAL YEARBOOK issue an important number of oilheating and fueloil men have supplied figures from their operating records of 1951. Without their generous cooperation it would not have been possible to present the 16-page statistical summary which is the main feature of each January number.

There is no way to thank these helpful persons other than to point out that, as the industry gets from the analysis some assistance on its problems, they have helped make the whole pasture greener. Speaking for those who will make use of the figures, thanks a million!

❖

WHILE OILHEATING INSTALLATIONS in 1951 of 692,202 were off from last year 18%, gas heating installations of 615,700 were down 38%. This does not indicate that gas is losing its standing with the public, for it is not except in a few spots where the local utilities had extra bad luck with accidents.

The more important reason for the gas decline is inability to get enough of the fuel to meet the demands.

As we pointed out a year ago last Spring the great surge of postwar pipelines for natural gas was then at its peak and would be pretty well spent by 1952. There are two reasons for the slowdown in pipeline building, shortage of steel and inability to find and sign up 20 year reserves at the line's capacity, a mandatory requirement of the Federal Power Commission.

Gas will always be a formidable competitor because new oil wells will make available more gas fuel. Let's not underrate this competitor and let's keep promoting fueloil as vigorously as we can, but let's do it with the courage that comes with the knowledge that they can't possibly swamp us, as the alarmists so recently feared. Gas outsold us for two years in a row . . . now we're back again in the lead and can be expected to keep the ball for quite a spell.

❖

THE OUTLOOK FOT 1952, as in every year, is cloudy. It is easy enough to tell you a dozen reasons for the fog, but all put together they add up to the simple fact that "No man knoweth what a day may bring forth."

On the other hand every business man must make some guesses to chart his own course. Those with the best guesses usually are of the greatest help to their companies.

In a December issue feature Peter Andrews showed why his group of 300 sales specialists look for about the same oilburner volume in 1952 as in 1951 in spite of all the alarms about short materials. Then the consensus of all dealers assisting in the annual study is that installations in 1952 will be up about nine per cent. These dealer forecasts have always been too low in former years.

So it looks fairly safe to estimate that 1952 installations of domestic central heating oilfired equipment will reach or exceed 700,000.

❖

IN A NUMBER OF markets the fueloil distributors are making presentations to Washington to get their margins raised. This is understandable for whenever prices are frozen in any manner you will find early efforts to get relief for groups who feel unjustly treated.

Nobody likes restraint, least of all on our profits, and there should be help given where any industry, or segment of it, is being treated worse than the economy as a whole. Figures in this issue show that costs in 1951 went up more than margins.

On the other hand, the Washington price crowd yawns a little over fueloil margin requests because there have only been a score of individual complaints since the control started a year ago. Some industries are screaming in high E, and are being given more of the hours of the too small price staff.

Fueloil groups from Baltimore, Philadelphia, New York have made presentations. Then Otis Ellis, John Harper and Hiff Horning, the National Oil Jobbers crowd, have done some heavy work on the problem. But the fact remains that we can get help only if we can prove beyond doubt that we must have it and can back up the fine efforts of these organizations with real hardship appeals from a lot of individual companies.

The Washington atmosphere today is not like that of World War II . . . the individuals do not feel the same urgency. To get early action on anything you have got to make your trouble seem mighty pressing. So if it would just be nice to have more profits, don't waste your time . . . but if you're hurt to the bleeding stage—shriek!

If you want to write to Washington, address Petroleum Price Div., OPS, Tempo E Bldg., Washington 25, D. C.

❖

THE HOT STOVE REPORTER, publication of California's Ashburn Supply Co., brings some much needed wisdom from John Ruskin about how much you pay and get:

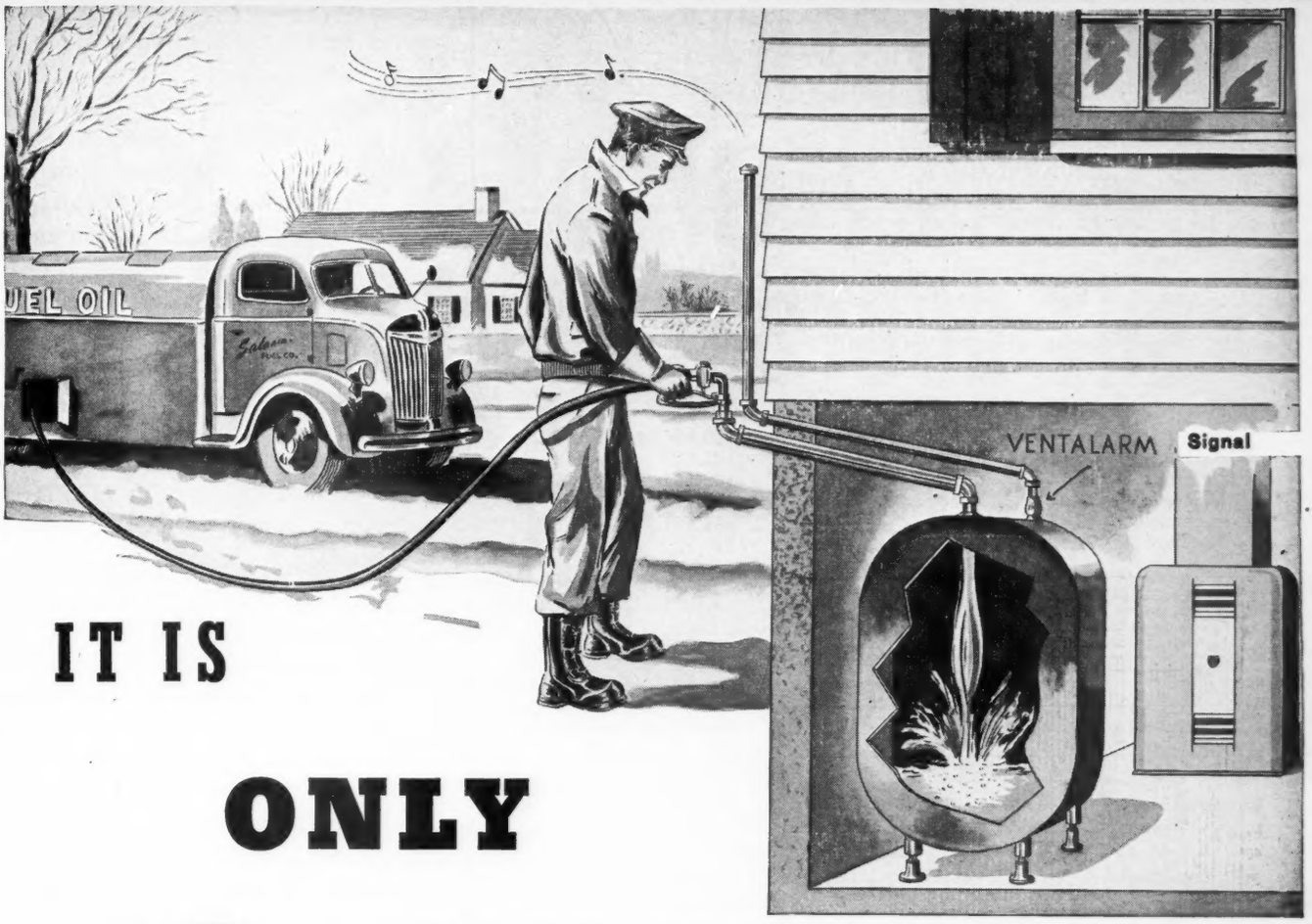
"It's unwise to pay too much, but it's worse to pay too little. When you pay too much you lose a little money . . . that is all. When you pay too little, you sometimes lose everything, because the thing you bought was incapable of doing the thing it was bought to do.

"The common law of business balance prohibits paying a little and getting a lot—it can't be done. If you deal with the lowest bidder, it is well to add something for the risk you run. And if you do that, you will have enough to pay for something better."

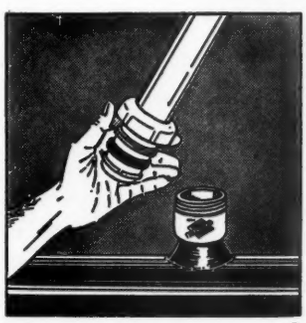
❖

ANOTHER OIL SUPPLY crisis has been averted. Chicago's one year old Martin Belchak was rushed to a hospital after he had sucked a quantity of fueloil through the vent in a space heater tank. A stomach pump recovered the valuable fuel, half a glassful.

There is PROFIT in delivery TIME savings!



IT IS ONLY WHILE OIL IS FLOWING



The LC model VENTALARM® Signal is easily installed on old tanks. A slip-fit quick compression fitting with bayonette lock eliminates any pipe threading. Takes only 15 to 20 minutes.

® Reg. U.S. Pat. Off.

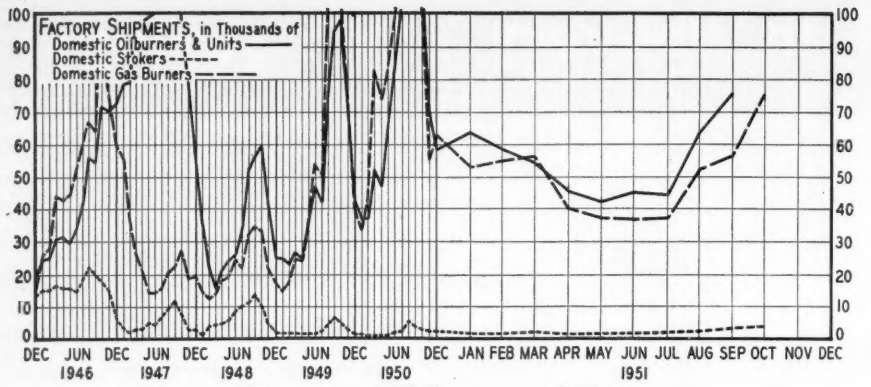
INSTALL VENTALARM SIGNALS ON *ALL* OLD CUSTOMERS' TANKS.

It is only while oil is flowing into a fuel oil tank that your oil chauffeur is actually doing something for which a bill can be rendered.

He *could* go in and out of houses all day long. He could stick tanks to his heart's content. He could calculate the size of deliveries needed. He could make pleasant conversation with your accounts. He *could* be the best oil chauffeur in the world. But, until he actually pumped some oil into a tank, he would not have done a single thing that would make a nickel for you!

SO—let's keep your oil chauffeur actually dropping the product as much as possible. Let's keep him *out* of houses. Let's do away with all the unessential moves. Let's fix things so he can go directly to the fill pipe, *safely* drop all the oil the tank will take and then be off to the *next* stop. That way lies profit!

SCULLY SIGNAL COMPANY
76 First Street, Cambridge 41, Mass.
Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario

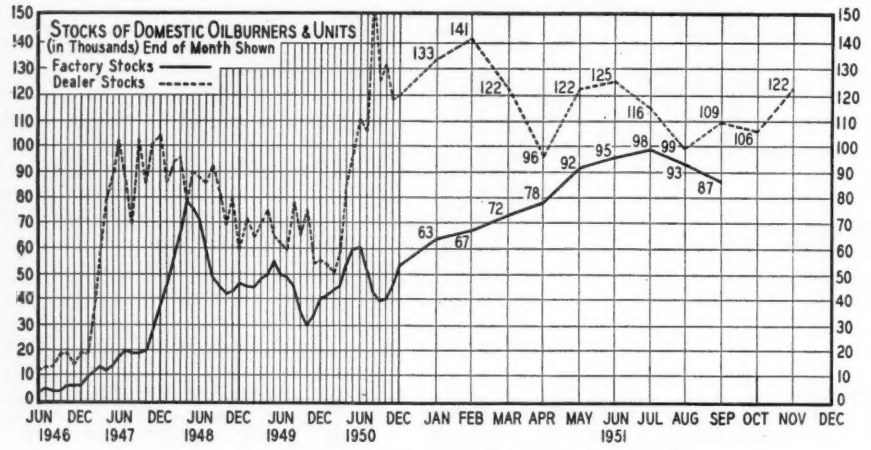

FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1946 1947 1948 1949 1950 1951

Shipments of Oilburners and Units

(Including Exports)

Adjusted to include manufacturers other than the 152 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	SEPTEMBER			NINE MONTHS		
	1951	*1950*	*Percent Change*	*1951*	*1950*	*Percent Change*
Conversion	54,048	85,433	— 36.7	350,185	495,100	— 29.2
Boiler Units	6,010	12,672	— 52.5	42,856	68,158	— 37.1
Furnace Units	16,166	19,582	— 17.4	102,135	117,117	— 12.8
All Domestic	76,224	117,687	— 35.2	495,176	680,375	— 27.2
Commercial	3,165	4,185	— 24.3	31,151	24,076	+ 29.3
Total	79,389	121,872	— 34.8	526,327	704,451	— 25.3


STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1946 1947 1948 1949 1950 1951

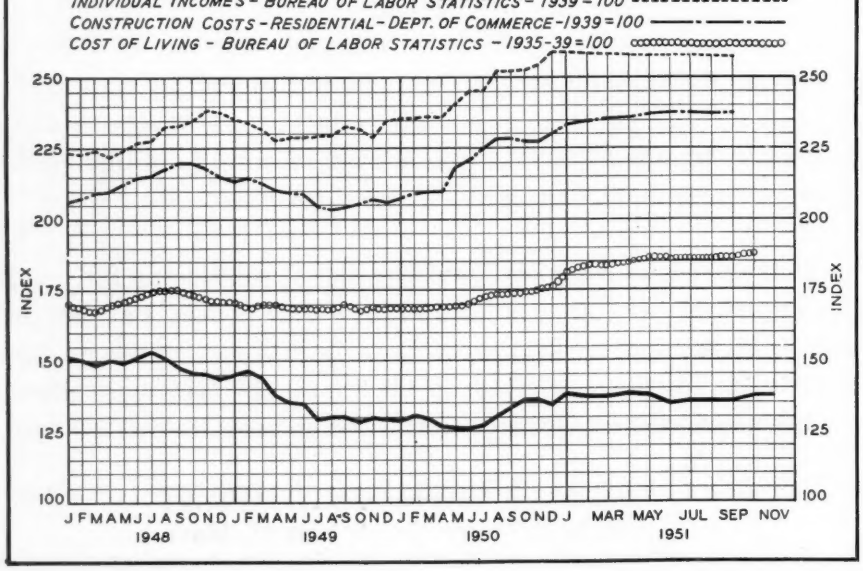
November Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
November Aver.	$326	$694	$640
October Aver.	332	696	632

Price Index: Conversion Burners: January 1940 is 100%

WHOLESALE				RETAIL			
November	138.3	Six months ago	138.8	November	136.8	Six months ago	136.6
October	137.8	Year ago	134.0	October	136.6	Year ago	136.3

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
INDEX
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J MAR MAY JUL SEP NOV
1948 1949 1950 1951

Oilheating Trends

CONTINUING THE UPTREND so clearly evident in the past few months, November installations of domestic oilburners and units are estimated at 88,166, or 5% above the 83,964 of last year. July was the worst month, comparatively, with a year ago, and each subsequent month has shown an improvement.

November installations were divided: New homes 30,482; Replacements of old oilburners 8,364; Conversions from other fuels 49,320.

Total installations for the first eleven months of the year are estimated at 649,944 compared with 747,704 last year, a drop of 13% for the period.

BURNER STOCKS: On December 1 dealers had in their warehouses approximately 121,717 domestic oilburners and units. Manufacturers have been asking for some time that this be divided between burners and units, so for this month the division is made as follows: Conversion burners 71,378; Boiler-Burner Units 24,956; Furnace-Burner Units 25,383. This shows that units are at least holding their own compared with conversion burners.

TANK STOCKS: Consumer tanks in the hands of dealers on December 1 were approximately 113,457, or only slightly less than the November 1 stocks of 115,004. By sizes the December 1 stocks were divided: 98,505 of sizes 220-275 gallons; 9,185 in sizes 550-675 gallons; 5,767 for tanks of sizes 1,000 gallons or larger.

During November dealers paid on the average $43 for a 275-gallon tank. New England continues to be the lowest priced market at $39; the Mid-Atlantic average was $45; in the Midwest it was $40 and in the Pacific Northwest $44.

INVENTORIES: Looking into the new year most men in the industry are concerned about material restrictions, since it is quite clear that during the first six months we face a tight situation on products made from copper and aluminum. For the first time this month questions were asked about dealer stocks of 15 principal items needed to make oilburner installations. The figures indicate that the industry position

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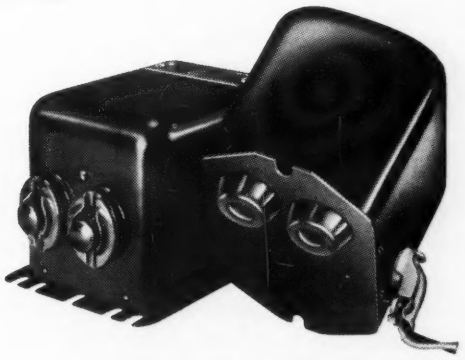
In Canada: *Canadian Jefferson Electric Co., Ltd., 384 Pape Ave., Toronto, Ont.*

JEFFERSON ELECTRIC

Jefferson Transformers



is relatively comfortable. By products, the table shows the position as of December 1 in dealer stocks. In this table, separate boilers and furnaces are those that do not include an oilburner and which are not included in the inventory of boiler-burner units or furnace-burners units. Oil filters in many instances refer to replacement cartridges rather than the complete filter units.

Dealer Inventories Dec. 1

copper tubing	4,937,000 ft.
nozzles	582,500
motors	94,700
burner pumps	82,300
transformers	55,000
circulators	24,200
low water controls	37,300
draft controls	119,500
thermostats	87,300
stack controls	67,000
limit controls	101,700
tank gauges	155,900
separate boilers, steel	7,700
separate boilers, cast iron	3,400
separate furnaces	6,000
oil filters	131,500
air filters	217,800
VENTALARM signals	116,300

MATERIAL SHORTAGES: These are relatively insignificant, to the point that dealers were unable to complete only about 250 installations in November because they were held back on some item of material. Only 9% of the reporting dealers reported any jobs held back for lack of materials. The items mentioned as holding up completions by these few dealers were sheet metal, boilers, black iron pipe and copper tubing.

MOTOR SIZES: At the request of one of the reporting dealers a check was made this month on the most popular motor sizes for oilburners. The survey indicates that 10% of the dealers are using oilburners with 1/12 hp motors; 39% sell burners with 1/8 hp motors; 51% have 1/6 hp motors on their burners. Asked whether one motor size or another involved less burner service, the vote was about 4 to 1 in favor of the 1/6 hp motor, with a variety of sizes accounting for the less desirable ratings in the opinion of the dealers.

FUELOIL RESTRICTIONS: With primary fueloil stocks at an all time high point it is surprising to learn that 35% of the reporting fueloil distributors still have some restriction on the amount of product they can get this winter. That 35% is divided into 18% who feel confident that they can get all of the oil they need from sources other than their regular suppliers and 17% who are still in the dark as to how they are going to take care of their requirements. Naturally, most of those with any concern over their supply position are in the New England and Mid-Atlantic states where the question is whether unlimited tanker rates in a frozen price economy are going to mesh gears.

FUELOIL STOCKS: Stocks of central

(*Please turn to page 154*)

Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
November		11 MONTHS			November		11 MONTHS	
1951	1950	1951	1950		1951	1950	1951	1950
..	82	..	1048	Albany, N. Y.	..	..	..	..
533	671	3144	4679	Baltimore, Md.	344	550	4586	2187
..	..	..	..	Binghamton, N. Y.	4	10	108	138
..	..	..	..	Bloomfield, N. J.	3	6	110	191
..	..	..	..	Boston, Mass.	12	26	397	305
180	182	1112	1296	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	39	37	525	636
101	7	259	29	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	67	118	844	1615
951	385	6058	1992	Detroit, Mich.	213	675	5880	11578
118	123	609	777	Elizabeth, N. J.	3	5	46	59
35	23	402	483	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	24	19	393	370
..	..	..	..	Hackensack, N. J.	7	10	110	186
210	144	1765	1406	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
25	20	407	543	Irvington, N. J.	2	2	52	47
..	..	..	..	Lynn, Mass.	16	7	138	166
69	26	313	537	Meriden, Conn.	..	..	..	..
152	216	1083	2913	Milwaukee, Wisc.	244	292	2930	3439
190	56	947	975	Minneapolis, Minn.	82	159	1336	2018
24	18	268	341	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	1	1	26	27
21	31	299	483	Mt. Vernon, N. Y.	..	..	..	..
153	127	1860	2264	Newark, N. J.	..	..	..	..
70	86	709	896	New Bedford, Mass.	..	..	..	..
61	61	545	640	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	48	..	377	New Rochelle, N. Y.	9	11	146	195
..	3542	..	32549	New York City (total)	..	..	..	..
..	2819	..	26028	Brooklyn-Queens	..	..	..	..
700	723	6230	6521	Manhattan, Bronx, Rchd	..	..	..	..
70	115	1348	1301	Norfolk, Va.	53	42	894	1297
..	..	..	..	Oakland, Calif.	..	..	..	..
164	109	917	1156	Omaha, Nebr.	78	52	945	1452
18	25	220	275	Orange, N. J.	0	1	33	18
12	25	239	378	Passaic, N. J.	..	..	..	..
53	45	652	1018	Paterson, N. J.	14	10	184	197
1366	1520	9006	13136	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	10	12	177	288
80	78	676	603	Portland, Me.	11	11	154	226
374	399	4248	5618	Portland, Oreg.	96	112	1382	2383
43	38	255	244	Poughkeepsie, N. Y.	..	..	..	..
125	126	953	760	Providence, R. I.	28	17	263	295
..	..	..	..	Reading, Pa.	1	5	75	72
45	82	622	1109	Richmond, Va.	25	40	572	692
49	53	679	1098	Roanoke, Va.	..	..	..	..
289	179	2735	3349	Rochester, N. Y.	..	..	..	..
..	50	..	358	Rockville Center, N. Y.	..	11	..	183
46	187	353	574	Salem, Mass.	5	5	81	79
..	35	..	389	St. Louis, Mo.	28	54	602	946
84	167	798	2153	St. Paul, Minn.	60	125	1138	1609
57	48	591	598	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	120	145	1735	2628
..	..	..	..	Springfield, Mass.	68	69	851	721
58	64	566	880	Stamford, Conn.	..	..	..	..
4	..	49	..	Syracuse, N. Y.	32	31	338	565
..	..	..	..	Trenton, N. J.	3	3	67	62
..	..	..	..	Utica, N. Y.	16	16	146	174
341	402	1359	1978	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	43	31	394	453
30	60	381	387	White Plains, N. Y.	2	22	97	209
72	158	920	1065	Wilmington, Del.	14	12	256	250
165	551	1804	2979	Worcester, Mass.	..	..	..	..
156	137	803	968	Yonkers, N. Y.	..	..	..	..
7398	7467	56374	68780	*Totals*	1761	2726	28011	37773
—0.9		—18.0		*Percent Change*	—35.4		—25.9	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

7 FURNACES IN *One!*

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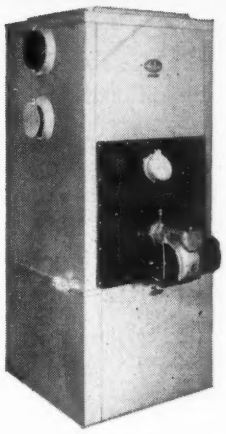
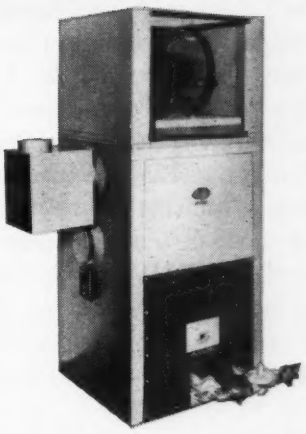


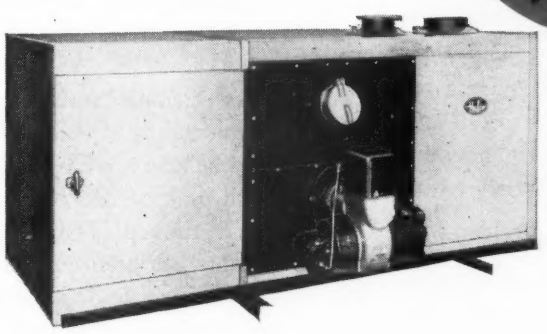
GAS OR OIL
HI-BOY
ASSEMBLY

GAS OR OIL
COUNTER-FLO
ASSEMBLY

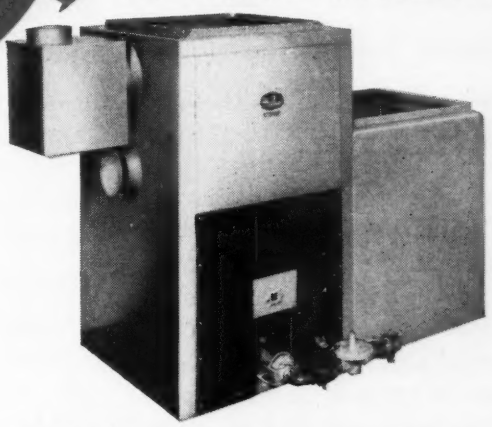


ONE FURNACE INSTALLED 7 *different ways*

AS SUSPENDED UNIT
OIL FIRED ONLY



GAS OR OIL
BASEMENT ASSEMBLY



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ALL GAS FIRED ASSEMBLIES APPROVED BY AGA

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The capacity of the Halco DU-ALL is 120,000 BTU *bonnet delivery* with either gas or oil. It is easily serviced, quickly assembled and . . . there has been no sacrifice in efficiency to achieve this amazing versatility.

Reduce Your Inventory

Instead of stocking SEVEN furnaces you stock ONE Halco DU-ALL plus one gas and one oil burner. The Halco DU-ALL Burner Exchange Plan adds to your profits. It's a NEW, Revolutionary "DU-ALL" furnace. ORDER YOURS TODAY!

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Government Influences on Fuels

by
Milburn Petty

WASHINGTON—A "flying squadron" of fueloil supply experts is being set up by the Petroleum Administration for Defense to deal with any spot shortage that may develop on the East Coast.

These men are being drawn from majors and independent suppliers on the East Coast. They are coming into PAD as consultants.

This group of trouble shooters may turn out to be PAD's principal weapon against localized shortages, if the Department of Justice continues objecting to industry working committees for this same purpose.

Overall, no shortage of domestic heating oils is expected. However, some PAD officials believe that supplies may be "spotty" in some northeastern areas even if the weather is normal.

Congress Eyes the Situation

If there should be any fueloil supply troubles this winter, some congressional committee is sure to step in.

One committee already has investigated and reported on the New England situation. It was the study made by the Senate Small Business Committee's staff at the request of Senator Benton of Connecticut.

Benton's report discussed the problems involved—such as both majors and independents urging an increase in price ceilings to ease the squeeze on independents caused by rising tanker rates. But the report did not recommend higher ceilings.

The report did suggest that more storage be built, with perhaps some sort of price incentive in the off season to encourage terminal operators to stock up.

OPS Studies Fuel Oil Prices

Office of Price Stabilization got by January 1st without any action on requests for higher ceilings on East Coast fueloils to offset rising tanker rates.

Even before the heating season started, PAD had informally endorsed requests for a half-cent increase to help independent primary suppliers threatened by rising tanker rates. Now, it would require perhaps a full cent to ease the "squeeze," PAD estimates.

OPS is considering a request from fueloil dealers in the Baltimore area which, if granted, might become the pattern for margin increases.

Some officials in the price agency feel that, with a 9% increase in living costs, fueloil dealers are entitled to relief. Of course, this idea would have to be OK'd upstairs in OPS. It would allow Baltimore dealers 0.3¢ more margin.

Tanker Situation Tightens

Two new factors seem slated to further tighten the tanker market. One was the military's decision to shift 40,000 B/D of its West Coast liftings to the Gulf, necessitating longer hauls.

The other was the chartering of 13 more American-flag tankers to the British for 12 months, thus lowering the number of ships for coastwide trade.

Meanwhile, Benedict Saurino, Sun Oil's tanker expert, predicts that the present tight situation on tankers will continue for another two years, at least.

Some OPS officials want to call another meeting of their tanker industry advisory committee to discuss rates.

Oil-Steel Outlook Seen Improving

There are hopes in some quarters here that larger allocations of steel for the petroleum industry will be forthcoming, beginning July 1st.

If so, oil will get the lion's share of the additonal tonnage—not gas. Expansion of oil transportation, refineries, and storage facilities are likely to get first call on steel.

PAD has an idea that gas expansion has passed its sharp upward climb and will now level off.

To get the facts on this, however, PAD has asked some 200 gas companies, representing 90% of the gas distribution business to estimate supply and requirements through 1955.

Federal Power Commission is rapidly whittling down the backlog of gas rate increase applications totaling many millions of dollars.

In the latest case, increases totaling over $11,400,000 a year were granted to Tennessee Gas Transmission Corp.

Commissioner Buchanan, who was the lone dissenter in the FPC's decision declining jurisdiction to control field gas prices in the Phillips Case, objected to allowing higher field prices as the basis for justifying part of the increase.

Oil Expansion Step-Up Planned

The sights may be raised on oil capacity expansion for the U. S., from the present rate of about 330,000 B/D per year of additional capacity to 450,000 B/D or 500,000 B/D per year.

There are indications that top officials in the Truman Administration have become convinced that an adequate oil supply—within the U. S.—is a military necessity and that all steps required to this end should be undertaken. Actions on this will speak louder than promises.

LPG Supply Troubles Expected

Supply troubles for distributors of liquefied petroleum gas are expected to crop up soon in widely-separated areas, say government experts.

They know what is happening—and why. But nothing can be done about it now.

Consumer demands continue to rise sharply. Dealers have worked off much of their stocks and are having to replenish with tank car shipments.

Meanwhile, the supply from natural gasoline plants has been curtailed by the cuts in crude oil production allowables. And more and more propane is being diverted to make chemicals.

Agreement Near on Navy Special

Reports that a vessel carrying coal to Europe (it might have been to Newcastle) was held up by shortage of bunker oil, emphasized seriousness of the residual fueloil situation.

Indications are that PAD will have to continue using its directive powers to obtain needed supplies of Navy Special Fueloil, of which about 8,000,000 barrels will be required during first six months of this year.

OPS has been reluctant to accept PAD's insistence that any supply directive—for Navy Special—or any other product must include a provision for a "fair and reasonable" price.

But it now appears that OPS will agree to a price of around $2.17 at the Gulf, with adjustments to be made on the basis of cutter stocks blended in.

Oilheating Sales good

Volume declines but Industry records third best Year

DESPITE THE FACT that oilburners installed for domestic central heating in 1951 dropped about 18% from the 1950 total, the 692,202 oilburners sold represented the third largest year in the industry's history. Only 1950's total of 846,815 and the record sales of 888,083 burners made in 1947 exceeded it.

For the second successive year total sales of gasburners and oilburners accounted for almost 99% of all sales of automatic heating equipment. In 1951 they represented 98.5% of the total, a slight decline from 98.9% the previous year.

Sales of automatic heating equipment in 1951 totaled 1,327,467, a decline of 28.5% from the 1,857,450 units sold in 1950. The 1951 sales were broken down as follows: Oilburners, 692,202 installations or 52.1% of total; gasburners, 615,700 sold or 46.4% of the total and stokers, 19,575 shipped from factories or 1.5% of total. In 1950, oilburner sales of 846,815 were 45.6% of total; gasburner sales represented 53.3% of the total and stoker shipments of 19,635 were 1.1% of the total.

Gasburner sales in 1951 were down 37.8% from 1951 and stoker shipments remained virtually the same, registering only a 0.3% decline.

Domestic oilburners and units operating at the end of 1951 increased to a total of 5,719,367, up 10.6% from

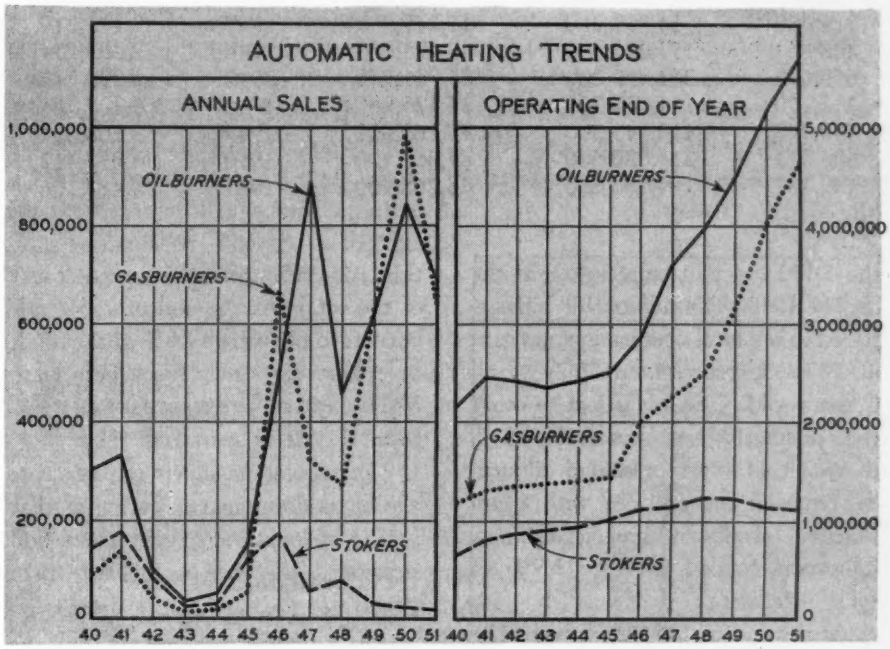


TABLE 1

Automatic Heating Trends

	Total	% of Total Stoker	Oil-burners	Gas-burners
	ANNUAL SALES			
1940	535,522	27.0%	56.4%	16.5%
1941	652,591	28.0	51.1	20.9
1942	225,041	35.1	44.2	20.6
1943	64,465	27.5	51.9	20.6
1944	102,028	31.0	48.9	20.1
1945	321,693	37.1	45.2	17.7
1946	1,336,316	13.5	37.0	49.5
1947	1,271,679	4.9	69.8	25.3
1948	803,222	9.5	56.7	33.8
1949	1,281,706	2.3	47.9	49.7
1950	1,857,180	1.1	45.6	53.3
1951	1,327,467	1.5	52.1	46.4
	OPERATING AT END OF YEAR			
1940	3,960,306	16.1%	53.9%	30.0%
1941	4,514,627	17.8	53.2	29.0
1942	4,615,785	19.0	51.7	29.3
1943	4,633,755	19.3	51.3	29.4
1944	4,700,130	19.7	50.9	29.4
1945	4,979,775	20.7	50.5	28.8
1946	6,009,347	19.3	47.0	33.7
1947	7,133,709	16.6	51.2	32.2
1948	7,752,498	16.0	51.3	32.7
1949	8,845,695	14.0	50.8	35.2
1950	10,434,971	11.3	49.6	39.1
1951	11,492,289	9.6	49.8	40.6

TABLE 2

TOTAL DOMESTIC BURNERS AND UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,012,870
150,510	$55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,517,055
492,593	211,448,000	79,007,100	1946	2,821,044
888,083	418,178,500	156,759,900	1947	3,650,514
455,245	237,385,500	84,114,100	1948	3,975,773
614,712	262,843,600	102,660,700	1949	4,490,535
846,815	371,585,000	140,582,300	1950*	5,172,134
692,202	338,305,900	127,206,600	1951	5,719,367

*Revised

TABLE 3
DOMESTIC CONVERSION OILBURNERS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
126,400	$79,400,000	$24,648,000	1930	648,500
104,000	50,310,000	16,640,000	1931	747,300
86,200	36,911,000	12,068,000	1932	827,320
80,800	31,263,000	10,423,000	1933	902,680
98,990	33,116,000	11,681,000	1934	991,980
136,825	43,373,500	13,408,900	1935	1,115,125
197,430	59,229,000	18,558,400	1936	1,281,305
184,920	54,181,600	15,903,100	1937	1,446,295
153,850	40,462,600	12,154,200	1938	1,559,675
200,020	48,004,800	15,601,600	1939	1,719,940
238,845	55,645,900	18,152,200	1940	1,933,605
237,965	59,490,200	19,275,200	1941	2,113,160
71,658	16,552,700	6,090,900	1942	2,073,260
21,363	1,885,800	1,837,200	1943	2,060,465
37,885	10,607,800	4,184,600	1944	2,072,445
119,680	34,292,200	11,249,900	1945	2,173,910
408,861	151,258,100	48,625,800	1946	2,397,554
669,615	262,489,000	83,701,900	1947	3,020,741
312,170	131,735,700	36,523,900	1948	3,208,365
440,748	155,143,300	47,160,000	1949	3,568,024
608,013	214,020,600	65,665,400	1950*	4,057,412
489,387	194,286,600	56,768,900	1951	4,444,306

*Revised

the 5,172,134 that were in use at the end of 1950. The number of burners added to the total operating, a net gain of 547,233, represented 79% of all burners sold. Customers lost to other fuels during 1951 amounted to 50,830, of which 44,961 represented oilburners removed and replaced with a gasburner. Old oilburners replaced by new oilburners totaled 94,139, 13.9% of total installations.

At the end of 1951 there were 11,492,289 automatic heating installations in use: Oilburners, totaling 5,719,367, represented 49.8% of this total; gasburners, with 4,672,215 in operation, were 40.6% of the total and the 1,100,707 stokers in use was 9.6% of the total. At the end of 1950, oilburners in use were 49.6% of the total, or almost the same; gasburners were 39.1%, and stokers represented 11.3% of total systems operating.

The tabulation shows the percentage of total automatic heating market served by oilburners, gasburners and stokers at the end of the last three years:

Operating 12/31/51		*1951 %*	*1950* %*	*1949 %*
5,719,367	Oilburners	49.8	49.6	50.5
4,672,215	Gasburners	40.6	39.1	35.4
1,100,707	Stokers	9.6	11.3	14.1
11,492,289			* Revised	

Listed in Table 2 are the annual total sales of oilburners, boiler-burner units and furnace-burner units used for domestic heating since 1930. The retail and wholesale values of the equipment and the number in use at the end of each year also are included.

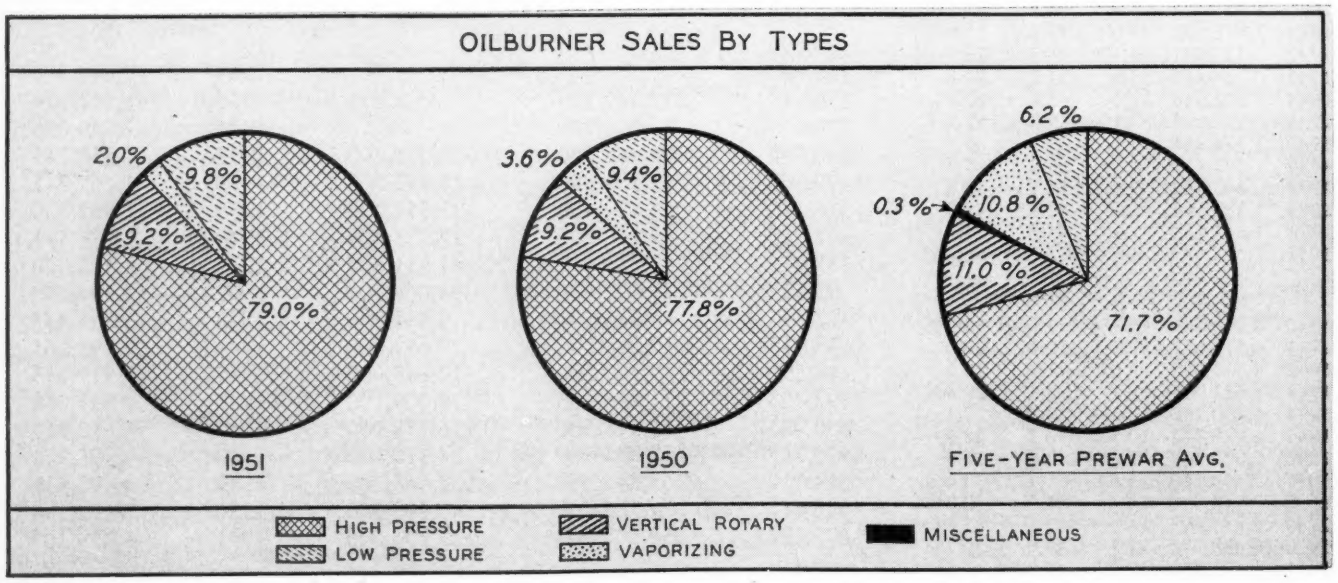
Oilburners operating increased 10.6% during 1951 and the average unit price rose from $438 in 1950 to $488, an increase of about 11.4%. On the wholesale side, the average unit price advanced 10.2% to $183.

These prices are based upon total sales for each year, including both conversion oilburners and boiler- and furnace-burner units.

Oilburner Types

The types of oilburners used during 1951 and revisions in the types used in 1950 indicate a normal pattern in which high pressure oilburners account for something more than three-fourths of total burners. Last year an even 79%, or 546,840 burners, were of the high pressure atomizing type, compared with 77.8% of 1950 installations; low pressure atomizing burners in 1951 were 9.8% of total sales, or 67,836 burners, up slightly from the 9.4% of total registered the previous year; vertical rotaries were estimated to be 9.2% of total burner sales in both 1950 and 1951 and accounted for 63,682 of 1951 volume; vaporizing oilburners declined to 13,844, 2% of total, compared with the 3.6% of total they aggregated in 1950.

The table below breaks down burner sales by types for the past two years



and presents an average for the five pre-war years for comparison.

No.	1951 %		1950* %	Prewar Avg. %
546,840	79.0	High Pres.	77.8	71.7
67,836	9.8	Low Pres.	9.4	6.2
63,682	9.2	Vert. Rot.	9.2	11.0
13,844	2.0	Vaporizing	3.6	10.8
692,202				

*Revised

Retail and wholesale prices of oilburners were higher in 1951 than in 1950, with the over-all pattern throughout the year indicating a relatively stable price situation. Retail prices for high pressure, low pressure and vertical rotary burners each increased a little more than 12%, while wholesale prices for the same types of burners showed jumps of 14.4%, 5.5% and no change. This information is shown in the table.

Retail 1951	Retail 1950		Wholesale 1951	Wholesale 1950
$381	$338	High Pres.	$111	$ 97
453	402	Low Pres.	153	145
440	390	Vert. Rot.	151	151

How Burners were used

Conversion burners installed in handfired heating systems again represented the largest number of jobs last year, with 44.8%, or 310,107 of all installations being made to convert from handfired coal. This percent is down slightly from 46.5% in 1950. New homes, which accounted for 37.8% of 1951 sales—261,652 oilburners—showed a little increase. In 1950 37.3% of all burners were used for new home installations and both years were up substantially from the 1941 figure of 24.3% of installations. Except for the 41.9% of total burners used in new homes in 1948, 190,719 of the burners sold that year, the 1951 percentage of burners that were installed in new homes is the highest recorded.

Replacements of old oilburners advanced to 13.6% of 1951 sales, 94,139 of all burners put in. This was up from 11.5% of total installations in 1950.

There were 17,305 oilburners, 2.5% of total sales, installed last year to replace coal stokers. This, while it showed a decline from the 4% of total oilburners used to replace stokers last year, replaced almost as many Class I and II stokers as were sold in 1951. Stokers replaced in 1951 were virtually the same, percentagewise, as the 2.3% shown in the chart for the year 1941. But, in that year only 7,665 stokers were removed and oilburners substituted.

Gasburner replacements showed an increase from 0.7% in 1950 to 1.3% in 1951, a total of 8,999.

In 1951 there was a total of 50,830 oilheating installations lost to other fuels, 25.5% less than the 68,256 installations lost in 1950. Losses to gasheating were 88.4% of total losses last year, a slight drop from the 89.2% of total accounted for in this way during 1950. Losses to handfiring and stokers combined for a total of 3.8% of the total, with losses to electricity totaling 3,926 or 7.8% of total losses. In 1950 losses to stokers and handfiring totaled 7.5%; electricity, 3.3%. A comparison for the number of oilheating installations replaced by other fuels for the past two years is contained in the table.

	1951	1950
Lost to gas	44,961	60,879
Lost to electricity	3,926	2,240
Lost to stokers	984	835
Lost to handfiring	959	4,302
	50,830	68,256

Kinds of oilheating Equipment

Of the total installations estimated for 1951, 70.7%, or 489,387, were conversion oilburners, a decrease from the 71.8% sold during 1950. Boiler-burner units also showed a slight decline from 9.7% in 1950 to 8.7% last year, accounting for 60,222 of total installations. Furnace-burner units, on the other hand, showed the only increase over 1950, advancing from 18.5% to 20.6%, 142,593 of the 692,202 burners and units sold in 1951.

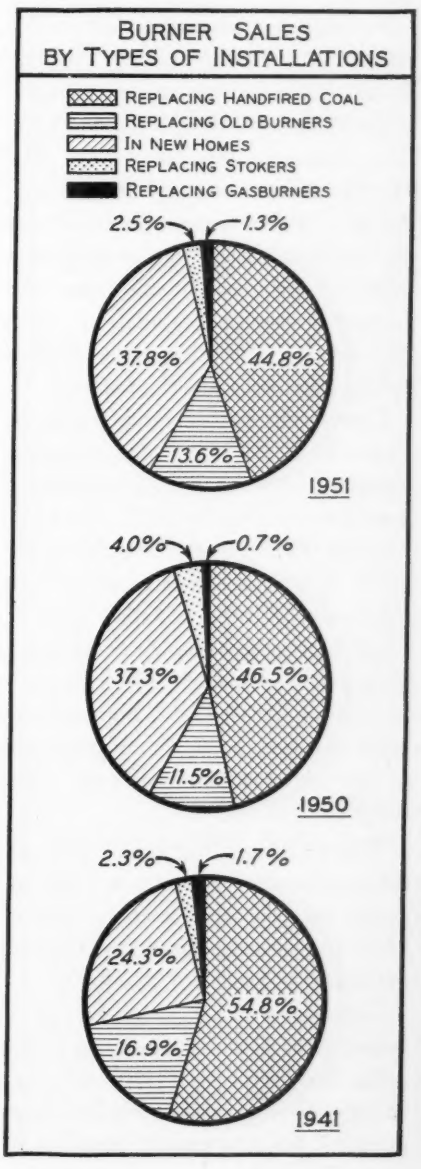
At the end of 1951 the 4,444,306 conversion oilburners in use were equal to 77.7% of the 5,719,367 oilburners operating; the 482,010 boiler-burner units in operation were equal to 8.4% of the total and the 793,051 furnace-burner units installed totaled 13.9% of all burners in use. Comparing these percentages with the 5,172,134 oilburners in use at the end of 1950, conversion oilburners accounted for slightly more, 78.4% of the total; boiler-burner units were again 8.4% of the

Oilburner Replacements

Number	Year	%
40,936	1940	15.2
56,315	1941	16.9
33,170	1942	33.3
13,910	1943	41.6
38,280	1944	76.7
29,847	1945	20.5
36,540	1946	8.0
58,613	1947	6.6
90,750	1948	19.9
58,200	1949	10.2
96,960	1950	11.5
94,139	1951	13.6

total and furnace-burner units represented 13.2% of all burners operating.

During 1951 conversion oilburners slumped 19.5% from 1950 totals, boiler-burner units showed the largest decrease, 26.6%, and furnace-burner units dropped only 9% from the previous year. Percentages of conversion burners and units applied to total installations for the past three years and prewar averages are listed in the table.



Prewar %		*1951* %	*1950** %	*1949* %
80.5	Conver. Burners	70.7	71.8	71.7
9.1	Boil.-burn. Units	8.7	9.7	9.0
10.4	Furn.-burn. Units	20.6	18.5	19.3

*Revised

Domestic conversion Burners

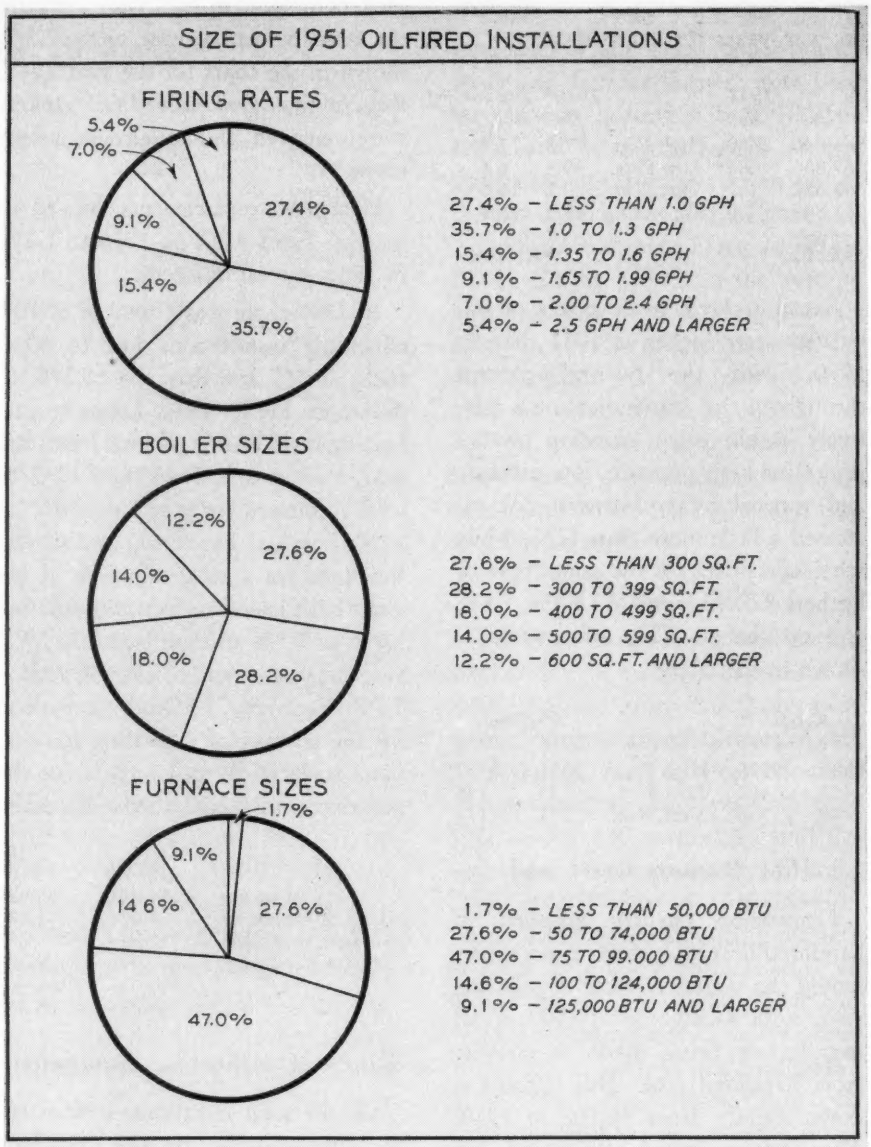
Table 3 contains details of the annual sales, retail and wholesale value of domestic conversion oilburners since 1930, plus the number in use at the end of each year. A decrease of 19.5% in the sales of conversion oilburners was noted during 1951, down to 498,387 from 608,013 registered in 1950. At that, conversion oilburners in 1951 recorded the third best year from the standpoint of volume, surpassed only by 1950 sales and the 669,615 conversion burners installed in 1947. Retail and factory values declined by 9.2% and 13.5% respectively and conversion burners in use at the end of 1951 increased 9.5% to a total of 4,444,306.

In addition to conversion burners installed in existing heating systems, dealers assembled burners with boilers or furnaces and installed them as complete units. For this purpose in 1951 48,958 burners were used with oil boilers and 195,965 were combined with oil furnaces. These dealer-assembled units are not shown in the boiler and furnace-burner unit tabulations, since they are the units that are assembled before shipment from the factory.

Conversion burner price trends, as shown in Table 5, reflected a general upswing, with the average conversion installation selling for $397, up 11.3% from the $352 average determined for 1950. This price refers to the normal conversion burner installed with a single basement tank. Average minimum prices advanced 3.4% from $319 in 1950 to $330 in 1951. Both average retail and average minimum prices are in contrast to reductions in price registered in 1949 and 1950.

Factory prices for conversion oilburners were up to $116, a 7.4% increase over the $108 average price in 1950 and average minimums likewise advanced to $102, a 5.2% jump.

Conversion burner prices by size of fueloil storage tanks are shown in the table, separated by geographical areas. In 1950, for comparison, United States averages for conversion installations



using one 275 gal. storage tank totaled $352; with 2—275's $418; with a 550, $462 and with a 1,000 gal. tank, $559.

Conversion burner Price by Size of Tank, 1951

	One *275*	*Two* *275*	*550*	*1000*
New Eng.	$409	$465	$535	$768
Mid. Atl.	394	480	601	717
South	394	481	507	762
Midwest	432	493	559	731
Pacific	394	467	504	715
Total U.S.	397	476	560	740

Beginning with the one-275 tank installations, selling prices in 1951 were up 12.8% over 1950; the 2—275 job increased 13.6% and the 550 and 1,000 tank installations advanced 21.2% and 32.4%, respectively.

Complete boiler-burner Units

A total of 60,222 integral boiler-burner units were installed in 1951, down 26.6% from the 82,141 put in during 1950. The net gain in such units installed increased the total in use at the end of 1951 to 482,010, 11% more than the 434,401 operating at the end of 1950. Table 4 contains the annual sales of factory-assembled boiler-burner units since 1930, the retail and factory value and the total operating.

Retail value of each unit increased from $751 in 1950 to $793 in 1951, up 5.6%, but the total retail value of all units installed in 1951 decreased 22.5% to $47,756,100, based on the smaller number of units handled. Factory prices for each unit also showed a rise, from $317 to $393, but, again because there were fewer sold in 1951, total factory value was down to $23,667,200, a decrease of 9.1%. The increase in retail and factory value of individual units is the first since 1948, the intervening years both showing drops. Table 7 gives retail and factory

prices for factory-assembled boiler-burner units, including the averages and average minimums for a number of years.

Sales of cast-iron and steel heating boilers are listed in Table 6, giving the total output for each type and the number and percentage that was used for oilfiring. Production of both steel and cast-iron boilers showed decreases in 1951, steel boilers being 39% down to a total of 43,045, compared with 70,597 in 1950; cast-iron output adding up to 160,270 boilers, a 17.6% decrease from the 194,509 produced in 1950. Production of both steel and cast-iron heating boilers totaled 203,315, of which 109,180 were designed for oilfiring. This last figure breaks down into 40,290 steel boilers for oilfiring, 36.9% of the total; 68,890 cast-iron boilers for oilfiring, 63.1% of the total.

Steel boilers for oilfiring are down 39.1% from 1950 figures and cast-iron showed a decrease of 9.8%. The greater reduction in steel boilers for oilfiring can be explained by the fact that a larger proportion of such boilers were used in the factory assembly of complete units, since 93.7% of total steel boiler production was designed for oil, as compared with only 42.9% of cast-iron production.

There was little change recorded in 1951 in the sizes of heating boilers installed. Boilers with capacities of less than 300 sq. ft. steam EDR and those with capacities from 300 to 399 sq. ft. accounted for 55.8% of all installations, compared with an even 52% for the same sizes in 1950. Boilers with ratings from 400 to 499 sq. ft. increased slightly from 17.4% to 18.0% in 1951; those with ratings from 500 to 599 sq. ft. totaled 14.0%, down from 16.4% in 1950 and the largest size of heating boilers surveyed, 600 sq. ft. and up, dropped from 14.2% in 1950 to 12.2% of total boilers installed.

TABLE 4
INTEGRAL BOILER-BURNER UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,000	.....	.....	1932	3,800
7,800	.....	.....	1933	11,600
9,300	.....	.....	1934	20,890
10,510	$9,511,600	.....	1935	31,400
15,025	9,781,300	.....	1936	46,250
14,430	8,557,000	$3,795,100	1937	60,240
14,220	7,877,900	3,711,400	1938	73,930
19,220	9,744,500	4,286,100	1939	92,540
26,955	13,322,700	5,005,300	1940	118,560
39,990	21,874,500	9,717,600	1941	155,720
9,313	5,289,800	2,877,700	1942	163,040
6,637	1,705,600	2,090,600	1943	164,240
6,440	3,909,100	2,002,800	1944	167,040
9,027	5,984,900	2,491,500	1945	175,165
45,130	34,765,900	18,088,100	1946	219,131
63,054	52,650,000	23,014,700	1947	277,771
42,785	40,260,700	16,600,600	1948	318,417
55,324	43,872,000	20,027,300	1949	368,286
82,141	61,687,900	26,038,700	1950*	434,401
60,222	47,756,100	23,667,200	1951	482,010

*Revised

Table 5. Conversion Burner Price Trends

RETAIL					FACTORY			
Average	*% change prev. yr.*	*Aver. Min.*	*% change prev. yr.*		*Average*	*% change prev. yr.*	*Aver. Min.*	*% change prev. yr.*
$692	..	$554	..	1929	$240	..	..	..
629	— 9.1	516	— 6.8	1930	195	—18.7	..	..
495	—21.3	413	—19.9	1931	160	—18.0	..	..
438	—11.5	371	—10.1	1932	140	—12.5	..	..
395	— 9.8	341	— 8.1	1933	129	— 7.8	$109	..
341	—13.6	310	— 9.0	1934	118	— 8.5	99	— 9.1
317	— 7.0	275	—11.2	1935	98	—16.9	88	—11.1
300	— 5.3	266	— 3.2	1936	94	— 4.1	85	— 3.4
293	— 2.3	255	— 2.6	1937	86	— 8.5	82	— 3.5
263	—10.2	236	— 7.4	1938	79	— 8.1	76	— 7.3
240	— 8.7	218	— 7.6	1939	78	— 1.3	69	— 9.2
233	— 2.9	210	— 3.7	1940	76	— 2.6	63	— 8.7
250	+ 7.2	226	+ 7.6	1941	81	+ 6.9	65	+ 3.2
267	+ 6.8	245	+ 8.4	1942	85	+ 4.9	73	+12.3
276	+ 3.3	247	+ 0.9	1943	86	+ 1.2	76	+ 4.1
280	+ 1.4	258	+ 4.7	1944	98	+13.9	78	+ 2.6
313	+11.8	292	+13.2	1945	94	— 4.1	84	+ 7.7
370	+18.2	294	+ 0.7	1946	119	+26.6	90	+ 7.1
392	+ 6.0	353	+20.1	1947	125	+ 5.0	107	+18.9
422	+ 7.6	349	— 1.1	1948	117	— 6.4	101	— 5.6
352	—16.6	329	— 5.7	1949	107	—14.5	97	— 4.0
352	..	319	— 3.0	1950	108	+ 0.9	97	..
397	+11.3	330	+ 3.4	1951	116	+ 7.4	102	+ 5.2

Table 6. Heating Boiler Sales

	Total Output	*No. for oil*	*% for oil*
CAST IRON			
1935	160,105	29,310	18.3
1936	186,560	41,922	22.5
1937	169,707	58,462	34.2
1938	135,282	54,139	40.0
1939	146,919	61,070	41.6
1940	168,839	77,764	46.1
1941	178,076	80,176	45.0
1942	111,875	10,765	9.6
1943	81,500	8,852	10.9
1944	75,760	19,140	25.3
1945	66,740	20,088	30.1
1946	161,667	46,548	28.8
1947	233,905	73,279	31.3
1948	180,345	61,781	34.3
1949	144,275	50,495	35.0
1950*	194,509	76,406	39.3
1951	160,270	68,890	42.9
STEEL			
1935	14,415	14,181	98.1
1936	19,242	18,622	96.8
1937	16,569	15,321	92.7
1938	19,098	17,218	90.3
1939	23,658	21,857	92.4
1940	24,580	23,206	94.5
1941	25,666	24,173	94.2
1942	13,000	7,238	55.7
1943	3,550	1,230	34.7
1944	3,310	2,168	65.5
1945	16,008	10,979	68.6
1946	34,820	33,777	97.0
1947	105,714	94,123	89.0
1948	92,718	82,716	89.2
1949	84,876	74,520	87.8
1950*	70,957	66,149	93.7
1951	43,045	40,290	93.6

*Revised

Dealer-Assembled Boiler Units

Cast Iron		*Steel*	*Total*
7,039	1942	1,651	8,690
2,240	1943	595	2,835
13,377	1944	1,491	14,868
18,734	1945	3,306	22,040
29,658	1946	5,537	35,195
87,957	1947	17,391	105,348
67,817	1948	32,895	100,712
44,932	1949	28,730	73,662
32,382	1950*	28,032	60,414
30,893	1951	18,065	48,958

*Revised

In the accompanying table, "Dealer-Assembled Boiler Units," are shown the number of cast-iron and steel boilers used for this purpose for the past ten years. The 48,958 boilers used in this way last year were less than 20% below the number of factory-assembled units sold and in 1950, 60,414 boilers used by dealers to make up boiler-units, were slightly more than 25% less than units shipped by manufacturers as complete units. In 1951, dealers assembling units used 18,065 steel boilers and 30,893 cast-iron boilers; in 1950 28,032 steel and 32,382 cast-iron boilers were used for the same purpose.

Dealers purchased factory-assembled boiler-burner units in 1951 for an average price of $393, up 24% and sold them at a retail price of $793, up 5.6% from 1950 levels. Table 7 lists these data for 1951 and previous years.

Complete furnace-burner Units

In 1951 an estimated 142,593 factory-assembled furnace-burner units were sold by dealers, down 9.0% from the 156,661 sold the previous year. Retail value of furnace units totaled $96,963,200 a slight increase over 1950 and factory value of units sold was larger by 4.3%, up to $46,770,500. Average retail prices for forced-air units were more, also, the average for each furnace-burner unit sold being $680, an 11.1% increase over the $612 average retail price recorded in 1950. Factory prices paid by dealers advanced 5.1% to $328. Price trends of factory-assembled forced air units are recorded in Table 9.

At year end, furnace-burner units in operation totaled 793,051, a 16.5% jump over the 680,321 that were in use at the end of 1950. A summary of yearly sales, retail and factory values and number of furnace-burner units operating at the end of each year since 1935 is contained in Table 8.

There were 1,039,159 warm air furnaces shipped from factories in 1951, down 4.9% from 1950 production of 1,093,189. Of the total in 1951, furnaces designed for oilfiring, both gravity and forced-air types, came to 338,558 units, 32.6% of total production, virtually the same percentage as the 358,004 furnaces made in 1950, which accounted for 32.8% of that year's production. Forced-air furnaces for oilburning in 1951 amounted to 321,808, 95.1% of oilfired furnaces, as compared with 340,189 in 1950, which represented 95% of oilfired production.

The number of furnaces used by dealers to assemble furnace-burner units increased in 1951 to 195,965,

TABLE 8
INTEGRAL FURNACE-BURNER UNITS

Sales	*Retail Value*	*Factory Value*	*Year*	*No. in Use (End of Year)*
3,175	$2,457,400	.....	1935	5,600
7,620	5,044,400	.....	1936	13,120
11,390	6,526,500	$2,540,000	1937	24,010
11,290	6,243,400	2,427,300	1938	34,140
16,900	8,771,100	3,464,500	1939	49,850
36,410	19,115,300	7,646,100	1940	82,960
55,295	32,181,700	12,939,000	1941	133,180
18,543	8,029,100	5,099,300	1942	149,990
5,445	1,691,900	1,503,200	1943	150,750
5,590	3,471,400	1,464,600	1944	152,780
16,889	8,968,100	4,104,000	1945	167,980
38,602	25,429,000	12,293,200	1946	204,359
155,414	103,039,500	50,043,300	1947	352,002
100,290	65,389,100	30,989,600	1948	447,277
118,640	63,828,300	35,473,400	1949	554,225
156,661	95,876,500	48,878,200	1950*	680,321
142,593	96,963,200	46,770,500	1951	793,051

*Revised

Table 7. Prices of Factory-Assembled Boiler-Burner Units

Average	*% change prev. yr.*		*Aver. Min.*	*% change prev. yr.*
		RETAIL		
$905	..	1935	$723	..
651	—28.0	1936	566	—21.7
593	— 8.9	1937	516	— 8.8
554	— 6.5	1938	482	— 6.6
507	— 8.3	1939	441	— 8.5
495	— 2.4	1940	365	—17.2
547	+11.5	1941	378	+ 3.6
568	+ 3.8	1942	473	+25.1
533	— 6.2	1943	361	—23.7
607	+13.9	1944	450	+24.6
663	+ 9.2	1945	539	+19.8
770	+16.1	1946	589	+ 9.3
835	+ 8.4	1947	691	+17.3
941	+12.7	1948	710	+ 2.7
793	—15.7	1949	682	— 4.0
751	— 5.3	1950	661	— 3.1
793	+ 5.6	1951	686	+ 3.8
		FACTORY		
$263	..	1937	$246	..
261	— 0.7	1938	244	— 0.8
223	—14.5	1939	208	—14.7
215	— 3.6	1940	183	—12.0
243	+13.0	1941	201	+ 9.9
309	+27.1	1942	229	+13.4
315	+ 2.0	1943	231	+ 1.0
311	— 1.3	1944	216	— 6.5
276	—11.2	1945	233	+ 7.9
351	+27.2	1946	267	+14.6
365	+ 4.0	1947	310	+16.1
388	+ 6.3	1948	345	+11.3
362	— 6.7	1949	342	— 0.9
317	—12.4	1950	311	— 9.1
393	+24.0	1951	336	+ 8.0

Table 10. Warm Air Furnace Shipments

1951		*1950**
	FORCED AIR	
28,263	Coal	29,430
321,808	Oil	340,189
474,109	Gas	462,143
824,180		831,762
	GRAVITY	
131,355	Coal	108,937
16,750	Oil	17,915
66,874	Gas	134,575
214,979		261,427
1,039,159	Grand Total	1,093,189

*Revised

Table 9. Price Trends of Factory-Assembled Forced-Air Units

Average	*% change prev. yr.*		*Aver. Min.*	*% change prev. yr.*
		RETAIL		
$274	..	1935	$642	—10.2
662	—14.4	1936	576	—10.2
573	—13.4	1937	499	—13.3
553	— 3.5	1938	481	— 3.4
519	— 6.2	1939	402	—16.4
525	+ 1.2	1940	360	—10.4
582	+10.9	1941	402	+11.7
611	+ 4.9	1942	413	+ 2.7
613	+ 0.3	1943	418	+ 1.2
621	+ 1.3	1944	434	+ 3.8
531	—14.5	1945	479	+10.4
659	+24.1	1946	526	+ 9.8
663	+ 0.6	1947	610	+15.9
652	— 1.7	1948	623	+21.3
583	—10.6	1949	538	—13.7
612	+ 5.0	1950	610	+13.4
680	+11.1	1951	624	+ 2.3
		FACTORY		
$223	..	1937	$210	..
215	— 3.6	1938	204	— 2.8
205	— 4.7	1939	198	— 2.9
210	+ 2.4	1940	196	— 2.0
234	+11.4	1941	201	+ 2.5
275	+17.5	1942	236	+17.4
276	+ 0.4	1943	241	+ 2.1
262	— 5.1	1944	217	— 9.9
243	— 7.3	1945	239	+10.1
318	+30.9	1946	265	+10.9
322	+ 1.3	1947	297	+12.1
309	— 4.0	1948	304	+ 2.3
299	— 3.2	1949	297	— 2.3
312	+ 4.3	1950	306	+ 3.0
328	+ 5.1	1951	316	+ 3.3

compared with 101,343 in 1950. Furnaces used by dealers in combination with separate oilburners were divided 186,363 for forced-air systems, 9,602 for gravity installations. Table 10 shows the number of warm air furnaces shipped for coal, oil and gas use, gravity and forced-air types.

The number of warm air furnaces installed during 1951 with bonnet capacities under 100,000 accounted for 76.3% of all furnaces installed, a decrease from the 80.2% for furnaces with similar capacities put in during 1950. Furnaces with capacities from 101 to 125,000 Btu in 1951 were used in 14.6% of the warm air systems installed, up from 11.8% in 1950 and 9.1% of 1951 furnaces had capacities in excess of 125,000 Btu. In 1950 these larger sized furnaces were used in 8.0% of the jobs.

Table 11. Commercial Oilheating

Sales		*No. Operating (End of year)*
14,990	1935	176,240
18,435	1936	192,830
19,380	1937	210,275
13,955	1938	222,880
16,445	1939	237,680
20,710	1940	256,320
34,750	1941	287,595
55,360	1942	293,120
44,470	1943	285,045
30,705	1944	286,680
30,515	1945	288,812
40,498	1946	325,310
48,780	1947	369,210
28,433	1948	393,550
25,220	1949	414,310
34,737	1950*	445,573
40,922	1951	482,403

*Revised

Commercial Oilburners

Distillate and residual oilburners for commercial heating in 1951 totaled 40,922, an increase of 17.8% over the number installed in 1950 when 34,737 burners of this type were sold. The number of burners in use at the end of 1951 increased 8.3% to a total of 482,403 from the 445,573 operating at the end of 1950.

Of the commercial heating burners installed in 1951, 48.4%, or 19,798, were distillate fueloil burners in capacities under 6 gph and the balance, 51.6%, or 19,012 burners, were for systems that used residual fuel in capacities exceeding 6 gph.

The figures on domestic oilheating include small stores, flats and similar heating applications in which burners with capacities under 6 gph, the typical domestic oilburner, are used.

Table 12. Domestic and Commercial Stokers

Total Sales		CLASS 1 *Bitum.*	CLASS 1 *Anth.*	CLASS 1 *Total*	CLASS 2 *Bitum.*	CLASS 2 *Anth.*	CLASS 2 *Total*	*In Use End Year*
144,758	1940	123,167	12,837	136,004	7,784	970	8,754	637,695
182,956	1941	158,734	17,110	175,844	6,513	599	7,112	802,345
79,062	1942	62,753	11,562	75,315	4,391	356	4,747	877,455
17,765	1943	4,460	472	4,932	10,790	2,043	12,833	894,330
31,603	1944	1,714	450	2,164	27,196	2,243	29,439	925,435
119,279	1945	89,522	3,525	93,047	24,349	1,883	26,232	1,029,150
181,223	1946	164,304	7,044	171,348	8,967	908	9,875	1,160,755
61,596	1947	53,372	3,364	56,736	4,469	391	4,860	1,186,195
76,477	1948	61,355	9,504	70,859	4,857	761	5,618	1,238,225
29,994	1949	21,988	4,991	26,979	2,612	403	3,015	1,235,560
19,635	1950*	13,102	4,191	17,293	1,855	487	2,342	1,175,537
19,575	1951	12,547	4,221	17,128	2,003	444	2,447	1,100,707

*Revised

Table 13. Domestic Gasburners

Annual Sales *Conversion*	*Boiler Units*	*Furnace Units*	*Total*		*No. in Use (End of Year)*
21,687	10,201	56,666	88,554	1940	1,187,486
36,335	15,007	85,043	136,385	1941	1,310,222
6,087	10,966	29,412	46,465	1942	1,352,040
800	3,485	8,970	13,255	1943	1,363,970
3,180	5,217	12,113	20,510	1944	1,382,430
14,183	14,959	27,676	56,818	1945	1,433,570
400,000	32,500	230,000	662,500	1946	2,027,548
90,000	44,000	188,000	322,000	1947	2,297,000
48,500	30,000	193,000	271,500	1948	2,538,500
290,000	50,000	297,000	637,000	1949	3,119,600
344,275	70,455	576,270	991,000	1950*	4,087,300
158,800	60,400	396,500	615,700	1951	4,672,215

*Revised

Competitive Equipment

The sales of domestic and small commercial stokers in 1951 registered almost the same total as realized in 1950, 19,575 down 0.3% from 19,635. Class I stokers (up to 60 lbs. of coal an hour) totaled 17,128, down 0.9% from 1950's sales of 17,293 and Class II stokers (60 to 100 lbs. an hour) recorded a 4.5% gain to 2,447 units.

Again in 1951 replacements of Class I and II stokers by gasburners and oilburners, plus stokers installed to replace worn out or damaged units, exceeded the total sales by a considerable amount. The number in use at the end of 1951 declined 74,830 units to a total of 1,100,707, down 6.4% from the number operating at the end of 1950. Sales of bituminous and anthracite Class I and II stokers by years since 1940 and the number operating at the end of each year are shown in Table 12.

Table 13 contains similar information on domestic gasburners, based upon estimates made by the Gas Appliance Manufacturers Association. Prior to 1950 the figures are records of factory shipments and do not take into account stock changes. For the last two years the tabulation shows actual sales and installations.

Total gasburners installed in 1951 were 37.8% down from the previous year's record high, amounting to 615,700, compared to 991,000 in 1950. Conversion gasburners declined 53.8% to a total of 158,800, compared with 344,275 installed in 1950; boiler-burner units, down to 60,400, were 14.2% below 1950 installations of 70,455 and furnace-burner units, down 31.1%, totaled 396,500, compared with 576,270 the previous year.

At the end of 1951 total gasburners in operation has increased 14.3% to a total of 4,672,215.

Summary

The year 1951 found the average oilburner dealer more bothered than retarded by the difficulties under which he operated. It saw the oilheating industry regain its lead in the sale of automatic heating equipment in 1951 with the prospects good for bettering that sales record in 1952.

Dealer Gross is up; Selling slumps

Too little Effort was made to overcome unsettled general Conditions

As OILHEATING INDUSTRY history piles up with the years, 1951 will not be remembered as a particularly bad period because it was the third best in number of installations, but it certainly has been a year in which industry analysts feel that we missed a lot of opportunities.

The sales decline of 18% from 1950 was not too serious a jolt, for our crowd is used to ups and downs, but we don't often get a drop in a year when there seems so few reasons for it. At a couple of points during the year, dealers were asked what were the principal sales resistance factors they encountered and while general unsettled conditions led the list both times we can't escape the facts that consumer incomes were up and personal savings hit another new peak. We just didn't sell very hard.

Management was disturbed over the large amount of publicity on impending shortages of materials, which did not actually show up in any significance, and the threats of fueloil shortage during the Spring months. These didn't materialize either. With these restraints too few dealers felt it was wise to make a big push for business.

The dealers do deserve a lot of credit for showing more courage in pricing their burners. The average conversion burner installed price of $397 carried a gross profit over primary costs of 31%, compared with only 28% gross in the 1950 average price of $352. This gross profit is by no means net. Out of it comes selling expense and all overhead, so it is still too low, but any improvement is to the good.

Prices did get back into step with costs, for the postwar rise since 1945 in selling price of 27% is just the same as the cost increase.

The dealers cooperating in this year-end study were reasonably representative of the industry as a whole. The average burner sales figure per dealer was 74, service customers were 932 and those in the fueloil business averaged having 923 customers for No. 2 oil. These figures would indicate that the industry has around 9,400 burner dealers, approximately 6,100 companies selling central heating fueloil. Naturally there are more than that in each group but they are insignificant in volume.

The table on dealer strength, by types of product emphasis, shows pretty clearly who is doing the oilburner business. As in other years, the dealers have been classified by whatever product accounted for their largest dollar volume. All groups are important but those dealers who specialize on oilheating equipment, petroleum products and burner service show the most vitality in piling up the industry's totals. As a rule, you find the stronger merchandising organizations along these channels.

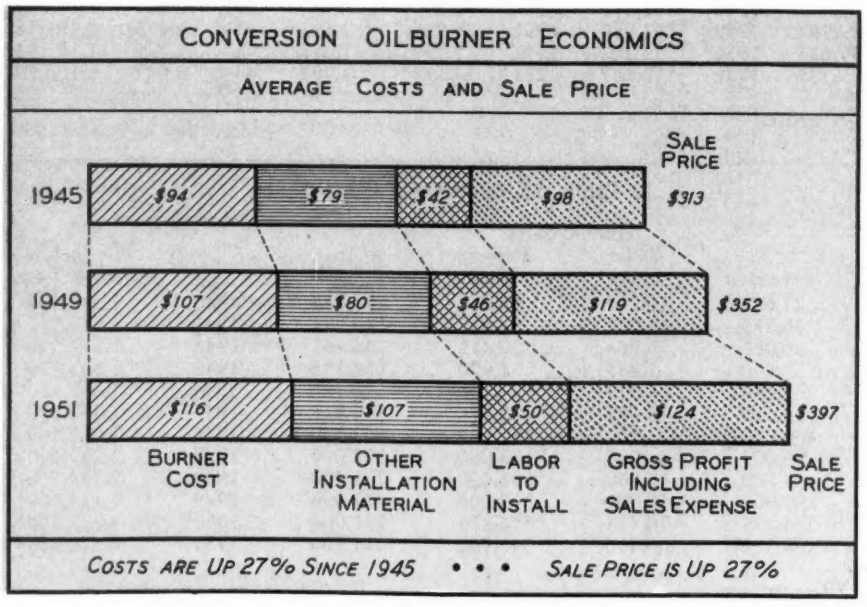
Gas competition has not bothered oilheating men as much in 1950 as it did in the two prior years, but we still have quite a number of burner dealers who get some income from gas equipment sales. In this study 36% of all dealers sold one or more gasburners during the year. The total number they sold was about 107,000 compared with 111,000 in 1950. The gas industry's factory shipments for eleven months of 1951 were down 40% from 1950, so it looks like the oilheating dealers did a much better job for the gas crowd than their own outlets were able to do. When an oilheating dealer also sold gasburners, he averaged 92 oilburners and 43 gasburners.

Oilheating dealers throughout the country spent about $12,400,000 for local advertising in 1951, compared with around $13,800,000 in 1950, but because of the drop in number of sales the average per burner sold was $17.87 in 1951 and only $16.30 the year before. The table on this shows detail of the media used. The main change from the previous year has been in direct mail, which gained sharply while other media declined moderately.

An increasing number of dealers are paying salesmen a combination of salary and commission and the table

Installed Cost of Conversion Oilburner

	New Eng.	*Mid-Atl.*	*South Atl.*	*Mid-west*	*Pac. N.W.*	*1951 U.S.*	*1950 U.S.*
Paid for Burner	$115	$115	$113	$121	$112	$116	$108
Installation Materials	113	121	85	83	110	107	92
Labor, including subcontract	41	48	40	60	54	50	53
Gross profit, including sales expense	140	110	182	130	137	124	99
Average sale price	409	394	420	394	413	397	352



on this activity shows a four year uptrend in this direction, with straight commission arrangements becoming less popular each year. (See page 62.)

Straight salary employment for salesmen is also on the increase as more men look for the sure thing. They lose in doing it, however, because the average 1951 burner salesman on straight salary earned only $3,711 while the average of those either on straight commission or salary-commission combinations earned $4,779, according to the countrywide dealer reports. These averages are helped by the practice of letting burner salesmen profit from oil sales as well as equipment in a number of the companies.

Canvassing to get prospects has fallen on bad times as the chart on prospect leads will show. Perhaps it is a fine thing to be able to say that 59% of the leads that brought 1951 sales came through keeping in touch with a dealer's burner users, because it shows that at least they are happy with their purchases and glad to recommend the equipment. But on the other hand a 2% rating for house-to-house cold canvass is mighty far down the scale.

It isn't a matter of having to find people to convince that an oilburner will work these days, that it will heat a home, but rather that every other industry is fighting so hard to get in the consumer dollars. Many a homeowner knows that he wants an oilburner some day but meanwhile he knows of other fine things he'd like to have and some salesman is pushing him to get it first.

This situation is highlighted in the table that shows that practically all of our 1951 slump was among prospects that would buy on time payments. Notice the table . . . it's a revelation. Cash sales dropped almost none from 1950 but installment sales were off nearly 150,000 installations. Those are people with weekly pay checks, which incidentally keep going up. The share of their dollars that can go for installment payments must be moving into some other industry. They'll take on an oilburner when we prove that it should come ahead of a freezer, a clothes dryer or television. This is the group we might well concentrate on in our selling for 1952. The chart on cash vs. installment buying visualizes how installment sales were going up each year since the war but turned down in 1951.

The table on burner installations by months is in a new form this year. We have known that the 1951 pattern was irregular compared to so-called normal years. But over any period of several months it was not far off. The old pattern of one-third in the first half of a year and two-thirds in the second half looks as regular as clockwork. The really significant change between the prewar average year and the postwar year is that the second half has flattened out . . . it doesn't peak up so high in September. In fact 1951 saw October above September and 1950 found August the highest month. There is not much difference any more between the four months, August through November. That's all to the good; it helps on manpower problems. (See page 62.)

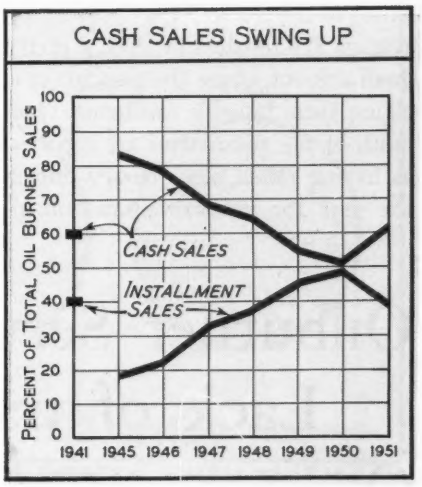
There was a sharp decline in 1951 in the number of extra oil tanks sold by the dealers to increase the storage capacity of old customers. There were only about 11,692 such sales compared with 25,820 in 1950. There were apparently two answers. First, installation manpower was too short to use it in delivering and piping these extra tanks; second, with the industry full of shortage alarms dealers wanted to hold onto their 275 gallon tanks for new installations. Actually, tank stocks held

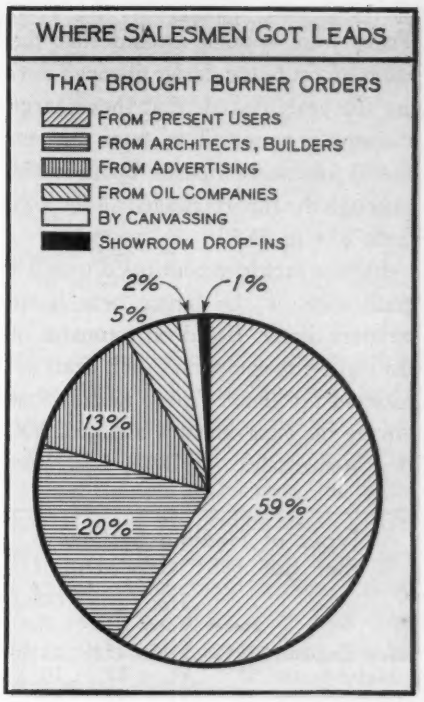
Dealer Strength by Types

Average number of burners sold by dealers whose principal business (LARGEST DOLLAR VOLUME) is in the products listed:

Principal Business	*Burners sold 1951*
Oilburning equipment	91
Fueloil	81
Gasoline	64
Burner service	56
General plumbing, heating*	42
Coal*	28
Home appliances*	15
Average all dealers	74

*It is obvious that many small dealers in these lines have too little oilheating interest to participate in such a study, so these averages only reflect the stronger outlets. The combined three groups were only 10% of all reporting dealers.





Lack of installment Buyers accounts for the Drop

1950 Cash sales	425,101
1951 Cash sales	420,167
Decline	4,934
1950 Installment sales	421,714
1951 Installment sales	272,035
Decline	149,679

What Dealers spent for Advertising in 1951

	Percent of Dealers using	*Spent per Burner installed**	*Spent per service Customer*	*Average spent per Dealer using*
Newspapers	71	$ 7.36	$ .36	$ 570
Direct mail	38	3.79	.18	209
Telephone directory	77	2.31	.11	166
Billboards	8	1.90	.10	1,364
Radio	19	1.74	.09	499
Television	4	.77	.04	550
Total		17.87	.88	

*Based on all burners of all companies, not just those companies reporting the activity.

up very well throughout the year. There were enough around that the average cost to the dealer dropped during the year. Asked what they charge a customer to install an extra tank on an old job, the composite figure is $75 although the reports ranged all the way from $54 to $150.

Burner factories continued to sell a good slice of the larger new home builders direct. Based on estimates of the reporting companies such deals accounted for about 47,000 installations during the year out of a total 262,000 new home sales, or 18%. Last year (1950) the reporting dealers estimated this at 9% of new home jobs so quite certainly there has been a rise in the practice.

More than a third, 35% of those heard from, of dealers throughout the country belong to one or more oilburner or fueloil trade associations. In most instances this is a local or regional group, although the national OHI is strong in the picture. They paid on the average $56 for dues in 1951, a pretty small amount where the association is giving them tangible assistance. One-ninth of the associations are reported as having raised some money during the year for industry promotion although the indicated sums raised wouldn't do a big job. Three or four groups in the country have big promotions under way. Others put up small sums, like as not for a local home show or other short-range purpose.

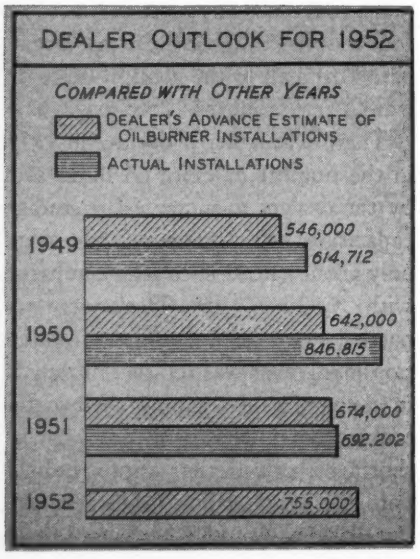
The last question asked of the reporting dealers was what they expect in burner sales for 1952. They expect them to be up 9%, after balancing all of the optimistic and pessimistic forecasts. The chart on this is significant. In no year have they yet been optimistic enough; actual sales have turned out higher than they expected. Their prediction is for 755,000 installations in the new year.

Types of Heating Systems that got 1951 Oilheating

	Steam	Hot Water	Forced Air	Grav. Air
New England	28%	35%	25%	12%
Mid-Atlantic	35	33	22	10
South Atlantic	13	35	43	9
Midwest	10	12	47	31
Pacific N.W.	8	6	75	11
1951 Average	23	26	36	15
1950 Average	22	24	38	16
1949 Average	22	33	25	20

Oilburner Installations by Months

	1951	Postwar Avg.	Prewar Avg.
January	5.8%	4.7%	4.3%
February	4.9	4.1	3.6
March	3.8	3.6	5.3
First Quarter	14.5	12.4	13.2
April	5.7	5.4	6.5
May	6.9	7.5	6.7
June	6.3	7.9	7.1
Second Quarter	18.9	20.8	20.3
First Half	33.4	33.2	33.5
July	7.0	8.7	8.7
August	12.7	12.6	11.5
September	14.0	13.7	17.2
Third Quarter	33.7	35.0	37.4
October	14.1	12.9	16.2
November	12.7	11.1	8.0
December	6.1	7.8	4.9
Fourth Quarter	32.9	31.8	30.1
Second Half	66.6	66.8	66.5



Straight Commission Selling drops sharply

	1951	1950	1949	1948
Percent of men selling on commission	26	34	36	39
On straight salary	28	22	25	26
On combination salary and commission	46	44	39	35
Average burner sales per man	67	66	60	59

Oilburner Service feels Lack of trained Manpower

OILBURNER SERVICE ACTIVITIES in 1951 followed pretty much the recognized trends of the general economic picture. Prices were up throughout the list with the average customer spending for service substantially more than he did in 1950. The year was highlighted by manpower shortage in all sections of the country. Our industry has grown so fast since the end of the war that we have not been able to keep up with training the necessary additions to the force.

The average dealer had one service man to each 391 customers in 1951. This situation has been getting tighter for several years. The table on service income compares 1951 conditions with 1948 to show the result of this situation over a significant period. In that earlier year there was one service man to each 302 customers. By this measurement manpower is nearly 30% tighter than it was three years ago.

Of course, a good many dealers use the same men for both service and making new installations, so they were asked in this year's report to separate these functions as much as possible. The average reporting dealer had nearly seven men in the installation and service departments. Installation men who did no service work were employed by 38% of the dealers; strictly service men who did no installations were used by 45% of dealers; then 81% of the dealers had one or more men working on both installation and service. On this combination work we find 41% of the total mechanics in the industry, while 42% did installation work only and 17% did service work only.

The table on service wage rates per hour shows an increase in each column over the previous year. It is interesting to notice that the best men were up an average of 8% in their hourly wages while the new men or helpers were up 14%. The reason for this is fairly obvious. We are competing with so many other industries to get men that we have to make the pay rate more attractive for beginners.

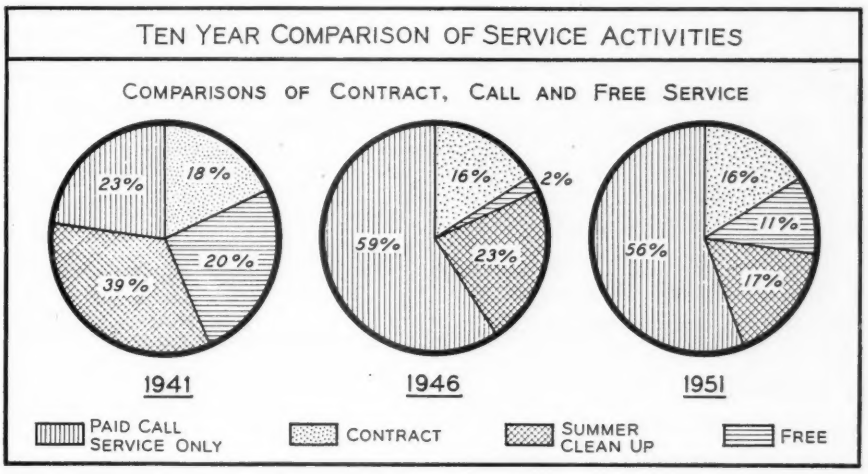
The Pacific Northwest continues to be the highest wage area in the industry and New England the lowest. As you move from East to West the rate

Service Income is up; Manpower is tighter

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	1951 U.S.	1948 U.S.
Average service Income per Customer	$17.23	$19.44	$22.88	$21.86	$7.47	$18.37	$16.60
Minimum Charge per Call	3.33	3.49	3.38	3.55	4.27	3.56	3.15
Customers per service Man	338	426	245	261	674	391	302
Percent of Dealers with union Shops	4	8	..	44	78	23	18

Service wage Rates per Hour 1951

	SMALL CITIES		MEDIUM CITIES		LARGE CITIES	
	Skilled	Helpers	Skilled	Helpers	Skilled	Helpers
New England	$1.49	$1.14	$1.66	$1.34	$1.76	$1.33
Mid-Atlantic	1.64	1.23	1.83	1.44	1.93	1.44
South Atlantic	1.71	1.12	1.91	1.32	2.02	1.31
Midwest	1.85	1.43	2.06	1.68	2.18	1.67
Pacific N.W.	2.36	1.77	2.62	2.08	2.77	2.07
1951 All Sections	1.75	1.32	1.95	1.55	2.06	1.54
1950 All Sections	1.71	1.19	1.80	1.32	1.81	1.37



More service Contracts; Less annual Clean-ups

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	1951 U.S.	1948 U.S.
Percent of all customers using:							
contracts without parts	17	10	2	2	..	8	8
Average price	$14.99	$18.25	..	$14.92	..	$16.60	$16.93
contracts including parts	7	16	..	1	..	8	4
Average price	$23.39	$23.04	..	$18.67	..	$21.89	$20.66
All contracts, percent of customers	24	26	2	3	..	16	12
Annual clean-up jobs, not including contract customers:							
Percent of all customers	19	21	11	16	3	17	25
Average minimum price	$ 8.08	$ 9.91	$10.14	$ 8.41	$ 9.46	$ 9.20	$ 7.61
Total annual clean-ups, including those on contract, percent of all customers	43	47	13	19	3	33	37

for skilled men moves steadily upward without a break in the line.

Only 48% of the reporting dealers were able to get as many men as they needed during the year. The worst situation was in the South Atlantic area where not one of the reporting dealers said he could get all the help he needed. The next worst was Mid-Atlantic where only 8% of the dealers have enough men. Based on the reports of the dealers cooperating in this study, the industry needed in 1951 about 4,000 more skilled mechanics for full time work than they were able to get, and about 6,000 more part-time men or helpers.

In the year and a half since the start of the trouble in Korea the dealers have lost to the armed forces approximately 3,220 skilled men. Among the new recruits, they got from oilburner courses in technical schools only about 620 men during the year.

The chart showing a ten year comparison of burner service activities emphasizes the great changes since the start of the last war. Ten years ago only 23% of customers depended entirely on emergency call service; today

Service for Farm Users

	Percent of Customers on Farms	Distance from Town without Extras	Charge per Mile beyond
New England	7%	11 miles	17¢
Mid-Atlantic	3	11	14
South Atlantic	5	13	10
Midwest	10	14	13
Pacific N.W.	2	13	10
All Sections	5	12	14

56% of customers get service only when they call for it. Free service almost disappeared during the war years but now it has come back to represent 11% of the total. This does not mean that 11% of all dealers have a free service policy, but it does show that a greater number of dealers render some of their service free. This does not include first year warranty service on new installations.

The table on service contracts and annual clean-ups shows that 1/6 of all oilheating users now buy contracts and this is some improvement over three years ago when the number was 1/8. Annual clean-up jobs, however, have dropped in number during that period from 25% of customers to 17%. These, of course, do not include those customers who get the annual clean-up as a part of a contract. The total clean up jobs this year, with or without contracts, were 33% of all oilheating users compared to 37% three years ago.

The average contract price has changed very little in the three year period but the significant observation here is that today ½ of all contracts include burner parts while three years ago only a third of them carried this provision. The increase in price to include parts is $5.29 on the average and this seems quite adequate since several surveys have shown that the actual cost of these parts to the dealer is around $3.00.

The minimum charge per call, $3.56 for the national average is up only 13% in the three year period, apparently not enough in view of advancing wage scales.

For the first time this year a study was made of the use of combustion testing instruments. In the table on this activity we have grouped together the three most common instruments since the number of dealers using any of the three was much the same in each

Use of Combustion testing Instruments

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
Percent of Dealers using CO_2 testers, draft gauges and stack thermometers	83	89	67	95	89	88
Percent using smoke Meters	54	49	49	48	33	48
Dealers rate their Men in use of Instruments:						
Good	52%	55%	14%	48%	74%	53%
Fair	30	43	71	38	..	36
Poor	18	2	15	14	26	11

Domestic Hot Water Facilities in Oilheated Homes

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
Percent of homes using:						
summer-winter hookups	52	52	26	10	15	36
separate water heaters, No. 2 oil	12	5	11	3	1	6
separate with Kero., No. 1 oil	3	5	5	5	2	4
water heating with other fuels all or part of year	33	38	58	82	82	54

section of the country. Seven dealers out of eight had one or more CO_2 testers, draft gauges and stack thermometers. Nearly half of all the reporting dealers have one or more smoke meters. This is a surprisingly high figure considering the few years they have been on the market.

Of course, it is one thing to have these instruments and another to get the men to use them. The dealers were asked to rate their men good, fair or poor in the extent to which they regularly tune-up their jobs with instruments. There were significant differences by sections of the country but on the whole a little more than half of the dealers say that their men are good in using this equipment, 36% vote fair, and 11% poor. It is clear that more education is needed along this line for the benefit of economical and more effective operation.

Another new study for the first time this year is on domestic water heating facilities in oilheated homes. The table shows that 36% of all oilburner users have summer-winter hookups on boiler installations. Another 6% have separate water heaters for No. 2 oil, then 4% use separate water heaters with kerosene, No. 1 or stove oil. The remaining 54% are shown in the table to be heating water with other fuels. Through an oversight the dealers were not asked how many of their customers simply use an indirect water heater for domestic supply during the heating season and then use another fuel in the summer. Those families would naturally be included in the 54% shown as heating with other fuels.

A few more oilheating dealers had their own sheet metal shops in 1951. The table shows a steady progression in this direction through the past three years. The number using prefabricated duct work is also rising and the number that sub-contract or farm out all of their duct work continues to go down. This is a healthy sign in the industry since the dealers featuring warm air installations are moving closer to handling the jobs completely.

Service departments of oilheating dealers do some maintenance work on other types of automatic heating equipment. Based on the experience of the reporting dealers approximately ¼ of all dealers service some gas equipment and 1/3 service stokers. However, the total number serviced are only about 8,600 gas burners and 69,000 stokers, quite small in relation to the total number in operation.

In view of the probable tight supply situation in the first half of 1952 a check was made to learn the approximate number of service parts and accessories used by all oilheating dealers in 1951. It is important to observe that the figures shown in the table do not include equipment for new installations but are simply those needed to keep present jobs in good shape or to improve them for better operating efficiency.

Looking into 1952 the most important activity for service departments must be getting and training additional men. This is going to be difficult with the national defense program building up each month but it is so significant that it justifies the most intelligent study by service managers. Before the year is out some service parts may be in shorter supply but that is definitely a secondary problem. Wage rates may have to rise even above those in 1951 to get the men and this indicates that some service charges will have to be pushed as high as federal price regulations will permit.

How Oilheating Dealers handle Sheet Metal work

	Own Shop	Use Prefab.	Farm Out
New England	9%	39%	52%
Mid-Atlantic	14	31	55
South Atlantic	57	27	16
Midwest	53	38	9
Pacific N.W.	44	23	33
1951 U.S. Aver.	28	33	39
1950 U.S. Aver.	27	32	41
1949 U.S. Aver.	24	26	50

Service Parts, Accessories used by burner Dealers 1951

(not including those used on original installations)

	Total Number
Motors, new	49,352
Motors, reconditioned	110,261
Transformers, new	58,330
Transformers, reconditioned	13,144
Burner pumps, new	52,130
Pumps, reconditioned	127,026
Circulators, new	19,890
Circulators, reconditioned	7,787
Low water controls, new	34,422
Water controls, reconditioned	4,414
Burner controls, new	149,544
Burner controls, reconditioned	165,962
Ventalarm signals	189,770
Draft controls	87,594
Nozzles	589,149
Combustion chambers	81,146
Air filters	1,212,571
Oil filters	431,669
Oil tanks	119,238

❖

Rockwell Manufacturing Co. reorganizes sales Dept.

A COUNTRY-WIDE REORGANIZATION of the sales department with five regional managers has been announced by the Rockwell Manufacturing Co., Pittsburgh 8, Pa. The Eastern Region will be directed by M. J. Harper with headquarters in New York City and P. C. Kreuch will supervise the Central Region from Pittsburgh.

The Southern Region will be headed by J. W. Northcutt with offices at Atlanta, Ga.; C. K. Madison, from Houston, Texas, will direct the Mid-West Region and the Western Region will be managed by H. Boezinger, Los Angeles, Calif.

Fueloil Marketing in 1951

Margins were up some in all Regions, but Costs climbed even more

IF THERE IS SUCH a thing as an average fueloil distributor, he sold in 1951 about 1,900,000 gallons of No. 2 oil plus incidental kerosene or residual, he operated five trucks of various types, had his own bulk plant with an annual turnover of its capacity about eight times. He earned net before taxes about 6/10¢ a gallon or $12,000 net on his fueloil operation. His invested capital was around $61,000 so his earning of about $7,000 after income taxes was not bad as a percent of capital, but it was mighty small considering all the vicissitudes of handling that volume. He actually employed quite a lot more working capital than he had invested because he borrowed to carry his oil inventories and bought his new trucks on time payments.

That is not a particularly attractive picture but at the same time very few companies specializing in fueloil ever go broke. Most of these companies are owned by one or two persons and they make a living on their salaries.

There is probably no single company that exactly fits the pattern described, but that is typical of the average of all figures supplied in December by a few hundred fueloil marketers who cooperated in this study.

The one outstanding observation in a study of this nature is that the fueloil industry does not have much of a pattern. The differences in operating conditions, in costs and margins, in industry practices between various cities, are so wide as to cause an analyst to question whether any real analysis can ever come out of the crazy quilt.

As an illustration, companies with three cent margins on No. 2 oil are operating under such a diversity of labor conditions that we find some paying as little as $1.00 an hour for drivers, others as high as $1.86. Even more pointed, companies with margins as low as 2.2¢ a gallon are paying drivers anywhere between $1.10 and $2.15 an hour. There is almost no consistent relationship between margins and prevailing wage rates. There is not too much consistency between margins and total operating costs, particularly on a company by company comparison.

This causes most of the complaints over margins that are prevalent in the industry today. Not that most companies are complaining. The vast majority of operators are satisfied with their fueloil margins, believing that higher ones would encourage price cutting and unsettled conditions.

The ten or 15 percent that are particularly unhappy about margins usually have reason to be. To illustrate, we have situations like the New England distributor who reported a net profit before income tax of 1.9¢ a gallon on a margin of 3.1¢ . . . quite a number have profits ranging between a cent and 1.5¢. But typical of the less favored group was a Michigan marketer with a cost of 2.28¢ and a margin of 2.5¢.

Seek Solution

Naturally the major suppliers are aware of these situations and in general are trying to find solutions. It's apparently a slow process but when the time comes that the "underprivileged" distributor can be brought into line with the average there won't be much squawking. But more later about costs and margins.

For the first time, the fueloil distributors this year gave us a breakdown of the products they sell as to relative importance in dollar volume. The table showing products sold is interesting. Notice in the last column that combining the whole lot of reporting companies, fueloil was 57% of their volume, gasoline only 15%. The combination of fueloil, oilburners and burner service represented 70% of their dollar volume, nationwide. It should be recognized, however, that the typical country gasoline jobber, of which there are thousands that sell a little fueloil, was not too active in this study. Just 33% of the participating companies sell any gasoline and 17% have it as their largest volume product.

The oilheating public looks to its fueloil man to keep the oilburner running in good shape . . . or at least 70% of the consumers do. Notice in the next table that 70% of all fueloil distributors service burners, and as a coincidence they take care of just that percentage of all oilburners. Only 62% of them sell oilburners and units and they averaged selling 80 jobs each. Of course some fueloil distributors get very big in the burner business, selling as high as 2,000. (See page 66.)

The table on bulk storage characteristics is principally useful in showing the average rates of annual turnover. With the major suppliers pushing distributors to build more bulk plant capacity the Midwest appears the most cooperative, with the distributors able to store above 17% of their year's full needs, while New England can store only 10%. Differences in transportation affect this a great deal. Frozen-in areas like the Mohawk Valley of New York often have storage for two-thirds of their annual sales. (See page 66.)

New for the first time this year is a large scale analysis of customer storage capacity. The over-all figure of 367 gallons per user was considerably lower than expected . . . just after the war

Products sold by Fueloil Distributors

BASED ON THE COMPOSITE DOLLAR VOLUME OF ALL REPORTING COMPANIES

	New Eng.	*Mid-Atl.*	*South Atl.*	*Mid-west*	*Pac. N.W.*	*All Sec.*
Percent of the Group's total dollar Volume						
in fueloil	62	57	52	48	66	57
in gasoline, lubes, TBA	8	10	25	26	17	15
in oilburner sales	10	9	2	10	6	9
in heating other than oilheating	2	1	..	1	..	1
in oilburner service	4	4	2	4	3	4
in coal	11	11	16	5	6	9
in other products	3	8	3	6	2	5

Fueloil Distributors sell and service Oilburners

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
Percent of oil companies selling burners	74	68	27	66	35	62
Percent of oil companies servicing burners	79	83	40	59	47	70
Percent of all oilburners serviced by the oil supplier	78	82	69	58	41	70

Bulk storage Characteristics

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
PERCENT OF FUELOIL DISTRIBUTORS						
with No. 2 oil storage	72	61	93	88	82	74
with Kero., No. 1 oil storage	67	45	93	83	76	64
with residual oil storage	3	9	10	12	12	9
AVERAGE BULK STORAGE CAPACITY, THOUSAND GALLONS						
No. 2 oil	77	151	48	253*	27**	
Kero., No. 1 oil	34	81	52	166*	27**	
Residual oil	..	194	89	132	31**	
ANNUAL SALES RELATED TO NO. 2 STORAGE						
turnover, times	9.8	6.8	21.1	5.7	54.4**	8.1

*To understand this figure it should be noted that only 22% of the reporting companies from the Midwest were the typical gasoline jobbers, of which there are a great number with small fueloil storage. Most of the reporting companies were fueloil specialists.

**Most of the larger Pacific Northwest marketers fill their trucks at the marine terminals of the major companies, having only small supplementary storage of their own, reflected in these figures. This area was not included in the "All Sec." total on storage turnover.

Consumer Storage Capacities, No. 2 fuel

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
PERCENT OF ALL TANKS WITH CAPACITIES						
220-275 gallons	89	72	63	69	58	72
550-675 gallons	7	19	27	24	35	20
1,000 or more gallons	4	9	10	7	7	8
AVERAGE STORAGE CAPACITY PER USER	327	402	432	388	473	367

Fueloil Customers and Gallonage

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
AVERAGE CUSTOMERS PER DISTRIBUTOR						
Residential, No. 2 oil	686	877	551	1125	1391	942
Commercial-Apartment, No. 2 oil	38	74	47	59	67	62
Kero., No. 1 oil	308	212	1123	739	1046	505
No. 4-5 Residual	11	37	36	30	72	35
No. 6 Residual	8	27	..	9	7	16
AVERAGE GALLONS PER CUSTOMER						
Residential, No. 2 oil	1763	1910	1483	1418	1162	1632
Commercial-Apartment, No. 2 oil	6237	6236	3696	4151	5051	5462
Kero., No. 1 oil	633	736	526	904	705	740
No. 4-5 Residual	13772	25983	15010	42774	16528	25854
No. 6 Residual	..	..	..	..	..	90713

a sampling was made on a smaller scale that resulted in a 404 gallon average. An increasing share of oilheating going into small new homes since the war is holding down the average today.

In the table on fueloil customers and gallonage the average of 942 customers using No. 2 oil compares with 800 in last year's study. Some of this change was due to 12% more burners being in operation, some to the fact that the cooperating companies this year were in some instances not the same as last year. Naturally not all of the companies sold all of the oil products listed; rather the averages shown apply only to those particular companies that reported selling a specific product. On No. 6 residual fuel the gallonage per customer was omitted from the sectional columns because the number reported was hardly representative, but the national average shown of 90,713 gallons per customer is not far from right. In any of the tables where you see two dots instead of a figure this indicates that the answers received to that particular question were too few to be useful.

There is a new feature this year in the table on fueloil truck operation. For the first time an estimate is made of the size characteristics of all fueloil trucks in operation, as well as the sizes of the new ones bought during 1951. The average distributor has 5.2 fueloil trucks of all types compared with 4.4 in last year's study, with most of the rise being due to more customers as the industry grows.

Notice the sectional differences in what oil men prefer in truck sizes. The most pronounced single preference is for the 1,260 gallon size in the Pacific Northwest, a size that's almost standard on the Coast. The Mid-Atlantic area uses the largest average sizes, South Atlantic states the smallest, although in new trucks bought in 1951 there is quite a shift all around. Not including semi-trailers, the average capacity of all trucks in use in 1951 was 1,483 gallons and the average of new ones bought was 1,543 gallons.

The number of fueloil distributors operating their own over-the-road transports is up from last year, 21% against 18%. Another growth feature is that the average company with these transports operates 1.9 units; last year it was 1.6. As commercial hauling rates keep going up there will be more of this private operation.

In past years we have asked the reporting companies how many miles the average fueloil truck travels in a year. This was sometimes criticized on the score of being unrealistic . . . only the most economical trucks operated all year and there were spares, usually the older ones, only trotted out at the peak season. So this time we tried it another way, asking for the peak month only—January. Results are in the table on peak season operation. The average of all trucks traveled during last January 1,153 miles and delivered No. 2 fueloil at the rate of 471 gallons an hour. All of this is broken down into areas and to sizes of cities. In general, the East made the best showing, but in large cities the Pacific Northwest took the honors, having not only the smallest mileage traveled but also the largest deliveries per hour. In the big centers, accounts are concentrated. Seattle, for example, is 72% oilheated. They make that fine showing in spite of small trucks . . . the big average tanks help a lot too.

Wage rates for best truck drivers went up substantially in small cities during 1951, but showed only small in-

creases in medium and large cities. It must be that the small cities were losing too many men to defense industries, after the armed forces had taken their quotas. The lowest paid group in the average company, helpers and learners, showed important rises in all three sizes of cities. In other words, 1951 wage rates moved closer to uniformity throughout the industry. The Pacific Northwest is still the highest wage area but no longer much higher than the Mid-Atlantic. There are more union shops now than a year ago, 22% of the marketers using such drivers, compared with 16% among the reporting group for 1950. Some of this difference is due to different companies participating in the analysis, but in any event this is the first time the ratio has been above the 20% mark.

The chart and table on costs and margins is quite clear . . . there is more detail in the table this year. There are a few fluctuations in the smaller items of cost data that are not too clear. They have been calculated exactly as presented by the companies, always weighted for volume. (See page 68.)

Notice that with the exception of New England bulk plant operators the small companies did better than the larger for profits in every category. This impression is clearest in the bottom portion of the table where all sections of the country are combined. The costs rise regularly with company size on every item except bulk plant costs. Profits per gallon drop consistently as the companies get larger. Margins are definitely higher as the company size increases but they are not as much higher as are costs.

There are some spots in the table where companies operating their own bulk plants have lower average margins than those buying under the rack. This reflects the influence of the Eastern tidewater markets where the majority of distributors can't afford their own plants, yet under competitive conditions their margins are relatively higher than inland markets.

An interesting industry trend charted this year for the first time is the combination of direct major company sales at retail and the number of fueloil distributors who use major oil brands on their trucks. The two are tied together in big company marketing policy. The share of fueloil sold direct by major suppliers continues to drop. This doesn't mean that their actual gallonage drops, but as the market grows they are not adding much direct business on the whole.

In 1941 majors sold direct 29% of home heating oil . . . today they sell 22%. In relinquishing their position on direct sales they have put on pressure to get their independent marketers to fly their brand flags. Today 52% of all fueloil distributors are branded by their suppliers; five years ago it was only 41%. The majors want their brands on the streets for advertising purposes by one means or the other. You can probably expect a continuation of these two trends. (See pages 162 and 164.)

The branded operators are on the average smaller than the average of all companies, for you'll notice in the table that the 52% with brands sell 45% of the customers. The exception to this is the Northwest where the larger fueloil distributors have exclusive franchised territories for major companies, and there is no spot market.

Throughout the country 88% of the reporting companies sell their fueloil at major posted prices; 9% sell above and 3% sell below. This last group

Fueloil Truck Operation

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	All Sec.
TRUCKS OPERATED PER DISTRIBUTOR						
No. 2 oil	2.8	3.8	2.0	3.7	4.3	3.6
Kero., No. 1 oil	1.1	1.1	2.8	2.1	3.0	1.8
Residual oil	2.3	4.5	1.3	1.6	1.9	2.9
Over-the-road Transports	3.0	1.7	1.8	1.7	1.5	1.9
All types	4.4	4.7	5.2	5.8	6.7	5.2
Percent operating Transports	21	8	33	34	35	21
PERCENT OF TRUCKS IN USE, BY SIZES						
Under 1000 gallons	14	13	42	23	15	17
1000 to 1499 gallons	30	32	38	40	57	37
1500 to 2499 gallons	35	37	13	25	21	31
2500 gallons and over	6	11	1	2	..	6
Semi-trailers	15	7	5	10	7	9
PERCENT OF NEW TRUCKS BOUGHT IN 1951						
Under 1000 gallons	11	5	23	9	..	7
1000 to 1499 gallons	30	19	31	30	71	30
1500 to 2499 gallons	44	36	30	55	29	41
2500 gallons and over	7	14	..	..	..	7
Semi-trailers	8	26	16	6	..	15
CUSTOMERS SERVED PER TRUCK, NO. 2 OIL	254	250	292	339	341	285
AVERAGE GALLONS PER DROP, NO. 2 OIL	185	224	253	225	256	223
Kero., No. 1 oil	49	74	91	124	76	83
No. 4-5 Residual	1946	1451	2193	2417	1194	1776
No. 6 Residual	3671	2863	..	..	3238	3131

Peak season Operation—Month of January

	MILES PER TRUCK during month				GALLONS DELIVERED PER HOUR average of all trucks			
	Small* Cities	Medium* Cities	Large* Cities	All Cities	Small Cities	Medium Cities	Large Cities	All Cities
New England	1286	996	1221	1193	468	558	499	513
Mid-Atlantic	1182	1100	1088	1119	497	466	494	492
South Atlantic	1033	1477	1862	1445	345	538	..	458
Midwest	1332	930	1067	1133	370	395	452	417
Pacific N.W.	1088	871	1164	1103	362	347	522	445
All Sections	1215	1037	1193	1153	437	465	488	471

*Small cities are those up to 25,000 population; Medium are those between 25,000 and 100,000; Large cities are those above 100,000.

Truck Drivers' wage Rates per hour

Average of all reporting Distributors

	SMALL CITIES Best Men	SMALL CITIES Lowest	MEDIUM CITIES Best Men	MEDIUM CITIES Lowest	LARGE CITIES Best Men	LARGE CITIES Lowest	Percent Union Shops
New England	$1.34	$1.15	$1.45	$1.30	$1.53	$1.28	13
Mid-Atlantic	1.49	1.28	1.26	1.12	1.71	1.57	24
South Atlantic	1.14	.95	1.35	.95	1.15	.89	..
Midwest	1.56	1.38	1.55	1.34	1.62	1.23	24
Pacific Northwest	1.62	1.50	1.73	1.60	1.73	1.66	65
1951 All Sections	1.47	1.29	1.42	1.25	1.60	1.41	22
1950 All Sections	1.26	1.09	1.41	1.14	1.58	1.27	16
1949 All Sections	1.28	1.12	1.39	1.19	1.43	1.31	19

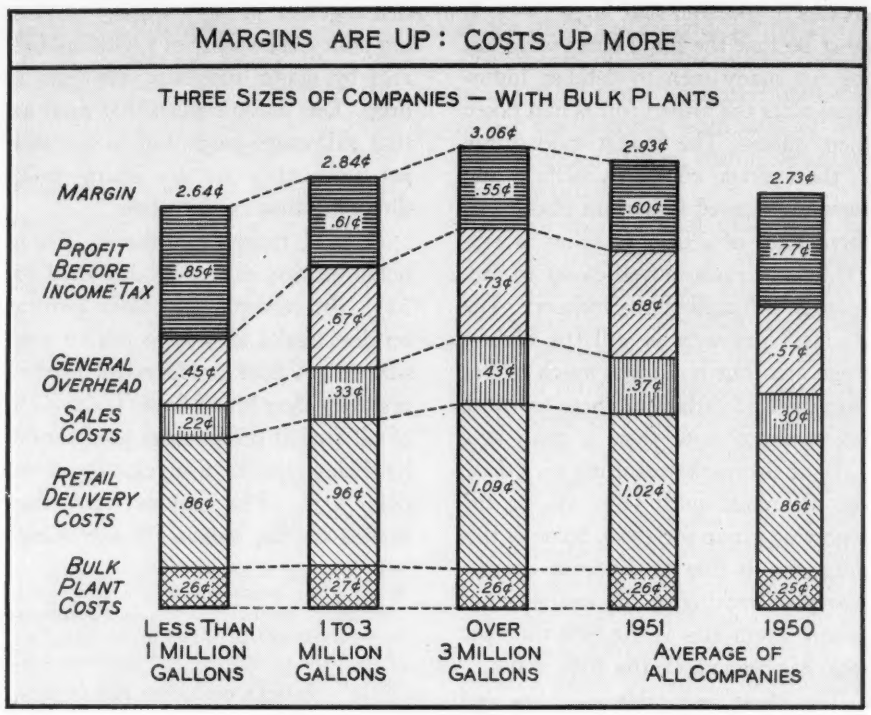
doesn't embrace all companies who occasionally sell a large commercial account at some special discount; instead they are companies that sell a fraction off as a regular policy. A year ago 7% were selling above the majors and 5% below.

In selling above posted prices, sometimes all of the principal distributors in a market sell at a premium, as in the Pacific Northwest cities or in the Cape Cod region. Again it may be only individual companies with strong reputations for good customer service and relations.

The use of automatic deliveries continues to gain, although the practice has probably about reached its peak. Some marketing situations are not well suited to it. In 1951 an estimated 81% of all fueloil distributors used automatic deliveries and 74% of all fueloil users were served by such systems. Individual yearly changes in these percentages are slight, but the table shows a four year change since 1947 and this is impressive. The use of VENTALARM signals has also made a strong gain in the four years, although the geographic differences are quite pronounced. A very popular facility in the East, they have not been strongly introduced through the West.

More than two-fifths of all fueloil men offer discounts to the consumer with large storage tanks, as shown in the table on page 164. The practice is almost universal on the West Coast to stimulate the use of their popular 675 gallon size. The success of this is clearly shown in the table on consumer storage capacities, where the Pacific Northwest has only 58% of 275 gallon tanks, the rest being 675 or larger.

Budget plans to allow the customer to pay his estimated annual bill in equal monthly payments are becoming more and more popular with oil men, but they still make little headway with the customers. The table shows that while 57% of the companies offer such plans only 10% of their customers, on the average, use them. New England and the Pacific areas have done some better. Just one of the reporting companies has 100% of its customers on a budget plan, making it a merchandising feature. (See page 164.) (*Please turn to page 162*)



Operating Costs and Profits

in cents per gallon

	Bulk plant Costs	Delivery Costs	Selling Costs	Gen'l Overhead	—MARGINS— With Bulk plant	—MARGINS— Without Bulk plant	—PROFITS*— With Bulk plant	—PROFITS*— Without Bulk plant
NEW ENGLAND								
Small companies	.19¢	.81¢	.19¢	.70¢	2.88¢	2.91¢	.99¢	1.21¢
Medium companies	.24	1.16	.31	.73	3.30	2.99	.86	.79
Large companies	.25	1.05	.38	.54	3.46	3.10	1.08	.97
All companies	.24	1.05	.39	.62	3.33	3.04	1.03	.98
MID-ATLANTIC								
Small companies	.25	.79	.22	.45	2.64	2.50	.93	1.04
Medium companies	.27	.88	.28	.66	2.71	2.83	.62	1.01
Large companies	.27	1.14	.42	.66	2.90	2.87	.41	.65
All companies	.27	1.00	.34	.64	2.79	2.81	.54	.83
SOUTH ATLANTIC								
Small companies	.27	1.05	.17	.67	2.73	..	.57	..
Medium companies	.25	.71	.31	.86	2.61	..	.48	..
Large companies	..	..	..	..	3.00	..	..	..
All companies	.26	.82	.26	.80	2.76	..	.62	..
MIDWEST								
Small companies	.33	.87	.32	.33	2.48	..	.63	..
Medium companies	.33	.90	.29	.51	2.63	..	.60	..
Large companies	.25	1.10	.34	.88	2.95	..	.38	..
All companies	.29	1.00	.32	.70	2.79	..	.84	..
PACIFIC NORTHWEST								
Small companies	.27	1.08	.10	.23	2.54	..	.86	..
Medium companies	.22	1.21	.61	.83	3.08	..	.21	..
Large companies	.26	.99	.41	1.24	3.25	3.14	.35	.50
All companies	.26	1.06	.45	1.07	3.16	3.14	.32	.30
ALL SECTIONS								
Small companies	.26	.86	.22	.45	2.64	2.62	.85	1.09
Medium companies	.27	.96	.33	.67	2.84	2.87	.61	.91
Large companies	.26	1.09	.43	.73	3.06	2.97	.55	.72
All companies	.26	1.02	.37	.68	2.93	2.89	.60	.82
1950 All companies	.27	.91	.26	.52	2.73	2.60	.77	.91
1949 All companies	.25	.86	.30	.57	2.65	2.40	.67	.67

*These are net profits before deducting federal and state income taxes.
Small companies are those selling under one million gallons a year.
Medium companies are those selling one to three million gallons a year.
Large companies are those selling over three million gallons a year.

Automatic Deliveries gaining

	New Eng.	Mid-Atl.	South Atl.	Mid-west	Pac. N.W.	1951 All Sec.	1947 All Sec.
Percent Companies using auto. systems	82	88	60	71	82	81	65
Percent all fueloil users served	86	80	63	57	72	74	64
Percent all tanks with VENTALARM signals	76	59	30	20	1	45	33

Recruiting-Screening-Training

A Plan to raise the level of the oilheating Industry's Sales Manpower

by

F. S. Burroughs*

IT'S NOT OUR HEAT—it's our timidity! The backwardness of the oilheating industry in developing a progressive, fundamental, and overall concept of more aggressive selling is costing us millions of dollars in sales lost to competitive fuels. That's right—we are trying to sell a modern, automatic way of home heating and precision-built, efficient oilburning equipment, yet, as an industry, "wheezing" along, out-of-date, on about two cylinders of potential sales accomplishment. In the face of some pretty high-powered competition from other fuels, we have no plan, no long-range development program for our salesmen, no method of attracting sales manpower to our industry, no system for creating a "pool" of available sales personnel. I submit that we had better take stock of this deficiency and try to correct it!

We should be able to assume that we honestly believe oil heat, for the most reasons, is the best choice for our home-heat prospects. Sure, in some areas other automatic fuels are "cheaper." But we can point to safety, dependability, availability. Other appeals count differently against other arguments! No, our problem is not to convince ourselves, but to convince our prospects that oil heat is best for them. If we can discover how to tell better, we can sell better.

A plan to meet this need has been developed, entitled, "The R-S-T Program" (Recruiting-Screening-Training). It offers our industry a way to "tell better" . . . and in so doing, to supercharge our sales efforts. And though there is no magic in its formula, nor any quick stimulant, it is a plan that through the years could put new vigor in our market and pay off to each of us in the form of increased and more stable net sales profits.

*National Secretary, Distribution Division, Oil-Heat Institute of America, Inc.

But first, before describing the R-S-T Program, let us list some of the reasons for "mediocrity" in the average dealer's sales staff. They include:

1. Heavy "turnover" in experienced salesmen.

2. Difficulty in locating and attracting adequate reserves of new applicants for sales jobs, with resultant limitations in selection. Competition today for "manpower" is heightened by the increased personnel needs of defense projects and the military services.

3. Difficulty in screening available applicants due to lack of organized methods for doing an intelligent job.

4. Lack of methods for bringing untrained sales personnel to useful efficiency levels in shortest possible time.

Result of these deficiencies is wasted money spent in disorganized advertising and ineffectual solicitation for new sales personnel, wasted time and money spent on screening and training such personnel, and an over-all loss in less-than-maximum effectiveness in selling oil-heat.

It is apparent, then, that we should have some organized way to locate new salesmen—a "talent scout" program if you will, or some sort of "farm system" for promising rookies. To get best results we should search out a productive field or source for such talent. Few good men will come from the ranks of so-called "experienced" specialty salesmen, who happen to be out of a job when the dealer is looking for new men. Let's tap, instead, an entirely new source of manpower. Let's consider the thousands of men between 25 and 40 who are now employed in jobs for which they are not well suited—men who can become top-notch, high-grade specialty salesmen. Right now, thousands of such men are dissatisfied in:

Monotonous office jobs
Low-grade selling jobs
Servicing and factory jobs

F. S. Burroughs

What R-S-T offers

A great many of these men would appreciate a chance to prove their genuine desire and their ability to learn how to sell oil heat. It would be thoroughly practical for us to give these men such an opportunity if we had a careful system of recruiting—screening—and basic training. The R-S-T Plan offers such a system. No one dealer could afford to set up the system for himself. All of us together could make it a valuable asset for our joint use.

As an industry, we would place through radio, or in the newspapers of key cities, an advertising message addressed to the above group as potential oilheat salesmen. This ad would be worded to sell the career of salesmanship—to interest this group in the rewards of selling as a profession. But not yet do we become specific. There is no mention of oilheat as the field of selling. Just an offer to send free, a copy of a booklet telling more about the new, interesting and profitable career of selling. We want quantity of replies at this point.

The free booklet tells our story of oilheat. It presents, without exaggeration, the advantages of selling oilheat

as a career; it outlines the characteristics required for success, fairly, and in a manner to discourage quitters and undesirables; it tells how to get and hold a job; it invites the reader to take the next step. This is to visit one of the participating dealers and get his approval of an application for training.

We'll lose a lot of applicants right here. But these are the ones we want to weed out. Now we're getting selective.

Enclosed with the booklet is a list of "participating" dealers in any city, also, two copies of a form (illustrated and easy to fill out) calling for age, education, past employment and whatever information is decided upon as necessary or desirable.

The applicant is asked to take the filled-out form to the dealer he chooses, who will interview him and either rejet or approve his application, depending upon the dealer's size-up of the applicant and his application. In either event, the dealer will forward the plan to a central agency, charged with the administration of the plan.

After the Application is approved

Now assume that our future salesman's application is approved.

He receives the first of a series of three short picturized texts on "Fundamentals of Oil Heat Salesmanship," treating some such subjects as:

1. Finding out what the prospect really needs.
2. Presenting your plan for heating his home.
3. Individualizing your sales story.

As a distinctive feature, which is essential for the purpose in view, the texts have woven into them a considerable number of brief sales cases, or problems, with questions to be answered either in writing or by checkmarks. The questions are practical tests of the applicant's ability to use his head, scientifically framed and graded so as to furnish a real key to aptitude and character.

He is told that he must answer every question in Text #1 and mail the text back in order to qualify for Text #2. Similarly, he must answer the questions in #2 in order to get #3; and the questions in #3 in order to get a certificate that he has completed the training course.

The applicant may or may not get help on his answers. It does not make a great deal of difference. In any case he acquires a basic understanding of what an oilheat salesman must do.

He will also get a personal letter commenting on his answers in each text—with a copy, if requested, to the dealer. This is to be real training with a personal touch.

The course may be completed in as little as a month; but it will usually take two or three months. While it is going on, the man will presumably stay in his present position and at the same time keep in touch with the dealer who has approved his application.

However, let us make perfectly clear that at no point has the dealer or anyone else promised the applicant a job. That is a question to be taken up—if the dealer wishes to do so—after the course has been completed.

Assuming our man is well thought of by the dealer and makes a good showing in the course, what do we know about him?

1. He is enough of a self-starter to spend considerable time and effort on preparing himself for a job.
2. He is persistent enough to stick to a project until he sees it through.
3. He has learned what an oilheat salesman is expected to do, and still wants to get into selling.
4. He has shown enough brains to be able to master our selling story and methods.

In short, our man has been screened on four vital points. His character and intelligence have been tested.

This is not to say that he will necessarily make a successful salesman or that he will necessarily be hired. After all, it is up to each dealer to form his own judgment on whether and when to take on a new man.

Purpose is selective Recruiting

Furthermore, the applicant has had only a brief pre-employment training —which is far from enough to turn out a competent oilheat salesman. It does not pretend to perform any such function. Its purpose is selective recruiting. Beyond that, the dealer must furnish specialized training, just as he would normally do for any other new salesman.

The R-S-T Plan does its part when it supplies a pool of promising candidates and gives our industry the first chance to pick and choose among them.

The R-S-T Plan is an attempt by Oil-Heat Institute to break some of the log jams blocking the full force of a concerted selling effort by our industry. But you don't fill a fueloil tank with an eye-dropper, nor can you implement such a broad-scale program as this half-heartedly or with a few dollars. The program will cost real money to put in practice . . . but "nothing" compared to the long-term benefits to our industry. Oil-Heat Institute is now studying this program, considering various means of financing its cost. Meanwhile, this limited outline is published here, in the hope that dealers will supply us with their reactions to this suggested program.

What the Plan can accomplish

Looking at it from the viewpoint of our industry, these are the results this program can accomplish:

1. It will add a large number, running well into the thousands, of new salesmen (some of them replacing present salesmen).
2. It will prepare the new men to learn each company's sales story quickly and to use effective methods of selling that company's products.
3. By enlisting the keen interest and enthusiasm of these new men, it will definitely increase sales.
4. It will infuse fresh life into our whole distributing organization.
5. It will do much to confirm and strengthen our standing as a progressive, successful industry which offers splendid opportunities to young men of character and ability.

Results of this nature may be confidently expected and I believe they more than justify the effort.

❖

Robert B. Haarde now is the northeastern New Jersey sales representative for National Radiator Co., Johnstown, Pa. A resident of Orange, N. J., Haarde will function as a staff member of the company's branch sales office in New York City. Previously he had been a branch office manager for a heating equipment manufacturer and owned a heating appliance business.

Starting a forced-air Furnace

15-*Point Check-List avoids Service Man's overlooking major Items*

by
J. W. Schulz

NOBODY CAN ARGUE that an oil-fired furnace should not be given a good start in life. A furnace or heating plant or oilburner have even greater need for a good start in life than a man has, simply because oil heating equipment cannot work its way out of the disadvantages of a bum start.

Suppose you are an equipment dealer interested primarily in greatest profits right now. You want to get rich quick. In that case, making a high point of giving your oil furnaces proper start-ups should be your big point in life. Simply because poor start-ups form the greatest reason for the service department expenses and losses which by themselves are preventing hundreds of burner dealers from expanding or becoming wealthy.

Suppose as a burner dealer you are complaining about the service man situation. You may be joining in the chorus now being sung by many dealers to the general tune of: "I simply can't hire enough experienced service men. My service men accomplish too little for what I pay them. My best men seldom hit the nail on the head in servicing equipment, therefore, most of their time goes for diddling and dawdling with this or that. To educate novices at oilburner service work proves too expensive for me."

Concentrate on proper Start-ups

If you are in this class of dealers complaining about the service man situation, you'd better concentrate right now on proper start-ups for the new equipment you install. Find out precisely the steps needed for proper start-ups. Give your service men specific instructions to take those steps.

Suppose you are an equipment dealer determined to build up a good reputation. Building the better mousetrap suits you. You want an ever-growing business for years and years, want to become known in your territory as the man who knows oilburners from A-to-Z and who makes an oilburner work like nobody else can. In that case, you simply have to avoid the many, many evils, headaches, and equipment breakdowns that come of poor start-ups. Nothing can blacken your reputation like poor start-ups can!

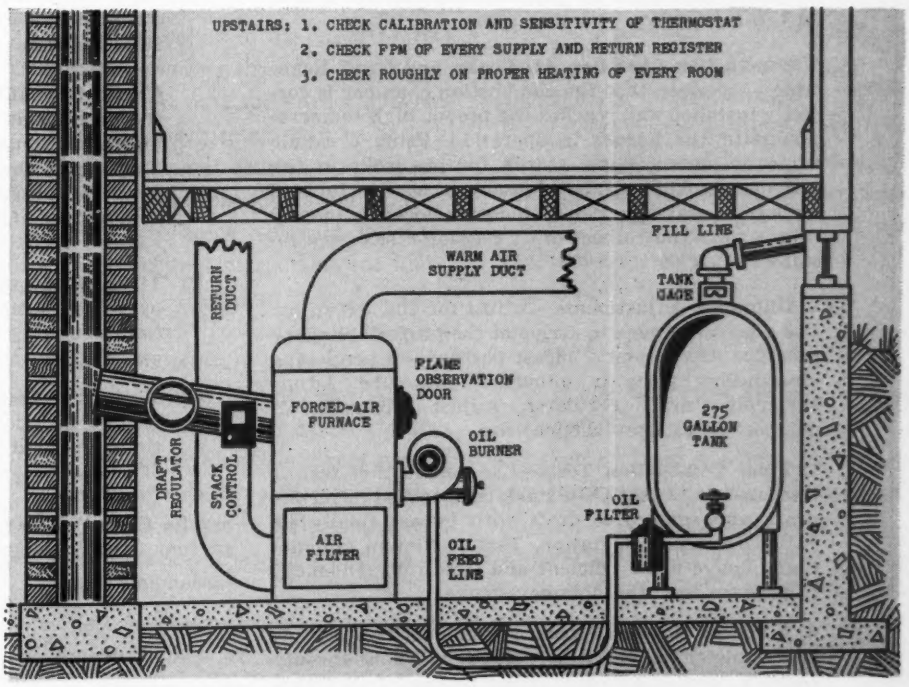
The owner of a fueloil company, selling oilheating equipment primarily to build up gallonage for himself, naturally needs good start-ups to increase his business. Poor start-ups for new oilburners not only lose money in the service department, they also lose fueloil customers who've properly become disgruntled because of burner breakdowns, equipment noise, discomfort, and overly high oil consumption.

Economics, handling service men properly, and service department management all are involved in this. Consider this aspect. In the course of road-testing the accompanying 15-Point Check-List in dozens and dozens of basements and in dealers' service headquarters, we asked many service men their opinions of it. The service men who liked the check-list indicated that, in taking interest anyhow in any technical write-up on their daily doings in the field of forced-air furnaces, they wanted insurance against forgetting important operations in starting a furnace. Now here's the big point. We found service men who said they had no need for this check-list for starting forced-air furnaces, because they always performed all the listed operations anyhow when they started such furnaces.

Asked if their boss had instructed them to go through these steps, these service men answered "No," everyone of them.

Neither, it developed, had the manufacturers of the furnaces involved issued instructions covering such start-up items as these.

We asked the boss of one of these service men, who'd said he always went through all these steps anyhow and without the benefit of a check-list, if he as boss knew the steps his men



Forced-Air Furnace Systems *produce dependable, quiet, economical heating only as a result of proper start-up, tune-up, and testing. The service expert's responsibilities include integrating the labeled parts of this forced-air system and arriving at the correct on-off cycling for both the burner and the circulating blower.*

15-Point Check-List

for Final Inspection, Starting, Tune-Up, and Testing of New Forced-Air Installation

OWNER'S NAME AND ADDRESS .....

.....

MAKE AND MODEL FORCED-AIR FURNACE .....

BTU CAPACITY DATA ON FURNACE .....

BURNER NOZZLE MAKE, SIZE, TYPE, AND ANGLE .....

The following checked items indicate the inspections, adjustments, and tests made by the undersigned service expert in starting the above-described furnace and preparing it for proper operation.

☐ **1. Oil Tank and Piping**—Verify that all piping is installed correctly and is free of oil leaks.

☐ **2. Controls and Wiring**—Inspect to ascertain that the proper controls have been installed and that the wiring conforms to the local and national regulations which apply to it.

☐ **3. Oilburner**—Examine all important parts of the burner. Remove and examine the gun tube assembly, install in it the correct nozzle (identified above), and set the spark points properly. Lubricate the burner motor properly. Test motor for quick starting and quiet running. Test ignition transformer to make certain it gives a strong, dependable spark.

☐ **4. Start Oilburner**—Make sure the fuel unit on the burner is properly set for one-line operation if the installation has no return line, or is set for two-line operation if a return line is used. Run the burner motor and air-rid the fuel unit. Fire the burner. Warm up the combustion chamber.

☐ **5. Combustion Chamber, Air Leaks, and Draft Regulator**—Ascertain that the combustion chamber is correctly installed and reaches the proper high temperature with the burner in operation. Using a candle flame or match flame, search for air leaks in the furnace, smokepipe, and chimney base. Use furnace cement to seal any leaks which are located. Inspect to ascertain the correct draft regulator has been installed properly.

☐ **6. Oilburner Adjustments**—Adjust for efficient firing. Use a pressure gage to arrive at the proper atomizing pressure. If necessary, adjust positions of nozzle and air-handling parts in oilburner gun tube. Adjust smokepipe draft regulator. Adjust oilburner air damper for a clean, efficient fire.

☐ **7. Final Combustion Tests**—Use combustion testing instruments to test CO_2, stack temperature, over-fire draft, and smokepipe draft with burner finally adjusted for usual operation. Test maximum chimney draft. Leave flame efficient and free from tendencies to produce soot and chimney smoke.

☐ **8. Air-Flow through Furnace**—Use duct temperature thermometer to check for proper air-flow through furnace, produced by circulating blower. If necessary, adjust blower speed. Ascertain that supply duct air can reach temperatures of 175° to 200°. Lubricate bearings of blower motor and circulating blower shaft.

☐ **9. Air Filter**—Inspect furnace to make certain it is fitted with a properly-installed, clean air filter.

☐ **10. Humidifier**—If furnace provides humidification, turn on the humidifier and observe it for proper operation.

☐ **11. Air-Flow at Registers**—Use air-flow indicating instrument to balance the supply duct system so that air flows from every supply register at the proper fpm velocity. Similarly check the flow of return air into every return register, making certain none is nearly dead or overly lively.

☐ **12. Proper Functioning of All Controls**—Test every control to prove it starts and stops properly the equipment connected to it. Test the live leg and neutral leg to make certain switches and controls do not interrupt the neutral leg. Ascertain that the entire installation is wired to operate properly.

☐ **13. Final Control Adjustments**—Test the oilburner control panel functioning with respect to (a) simulated ignition failure during burner starting, and (b) simulated flame failure with burner running. Check the calibration of the room thermostat. Set the thermostat for the proper sensitivity. Adjust the high limit control and the circulating blower control. Turn off the burner with the circulating blower running, and observe the temperature of the air in the supply duct at the moment the circulating blower is stopped by its control.

☐ **14. Quietness of Furnace**—Check the sound produced by the oilburner motor, fuel unit, and flame, and by the circulating blower and its motor. If sound is excessive, reduce it.

☐ **15. Owner Instruction**—Give the owner verbal or printed instructions on the care and maintenance of the equipment, and on the operating characteristics of a modern forced-air heating plant.

Service Expert's Notes—(Combustion test readings and notes on fpm readings given by air-flow instrument may be recorded here) .....

.....

.....

.....

Date Equipment was Started .....

Service Expert's Signature .....

took in starting, adjusting, and testing a new forced-air system. The boss of the service men did not know. He said he'd made certain to buy for his men every testing instrument they possibly could use to do their work speedily and thoroughly. From there on, he left matters to the best conscience and best judgment of his men, he admitted.

An odd thing about this particular dealer, it developed, was that the factory selling him oil-fired furnaces finds him its most complaining dealer. He is the worst dealer the factory has in complaining the furnaces produced excessive noise, high oil consumption complaints, breakdowns, and tremendous service expenses.

What the Start-up means

We have pointed out before the importance of the service man in starting a new oilburner. Paraphrasing what we said before, to fit it to oil-fired forced-air furnace units, produces the following:

The man who starts a new forced-air furnace must, to live up to his responsibility, take every step needed to permit him to say finally to the furnace owner, "Your forced-air heating system is ready for use. It will perform the way it's supposed to."

An installation crew may make mistakes; there's nothing new to finding out that errors were made in installing a furnace, an oilburner, a firebox, controls, or dampers and ducts. Equipment, including oilburners and furnaces and controls for example, which is not perfect may come to a dealer and unknowingly be installed. But before the heating plant is turned over to the owner, it should be put in condition for safe, dependable, quiet, and economical operation. There lies the service man's responsibility.

Observing a certain equipment dealer, who is having historic amounts of trouble with his new forced-air systems, brought out the point that giving a service man specific orders about start-ups can lead straight to trouble. This dealer gives specific start-up orders that are wrong.

Here's the pattern of this dealer's start-up order to his service man: "Joe, the installation crew just finished putting a new force-air heating plant into the end house of that new development. There's a pressure burner on the furnace. Go start it up."

"What's to it?" Joe asks. "What tools do I need?"

"An Allen wrench to air-rid the fuel unit, a screwdriver to adjust the air damper on the oilburner, and maybe a wrench to tighten the nozzle if the doggone furnace manufacturer put the nozzle in the burner only hand-tight like he did on that last job," says the furnace dealer impatiently. "Maybe you'll need a fuse for the burner circuit, cause our installation men always leave out the fuse so the owner can't start the furnace until you've made it ready for use."

This dealer expects Joe to be back in the shop in half an hour or so, and is anguished over the dozens and dozens of service calls he gets from new jobs about such things as breakdowns, noise, motor burn-outs and noisy bearings caused by lack of lubrication, unequal heating of different rooms, oil leaks, and need to re-adjust furnace controls.

Send an Expert

The wise equipment dealer does not send out a man to start up the burner on a newly installed forced-air furnace. He sends out an expert to make a final inspection of the entire heating system including the oil-fired furnace, to start and tune the burner and furnace, to do whatever must be done to arrive at proper heating and dependable and efficient operation, and to instruct the home owner or leave the proper printed instructions for him.

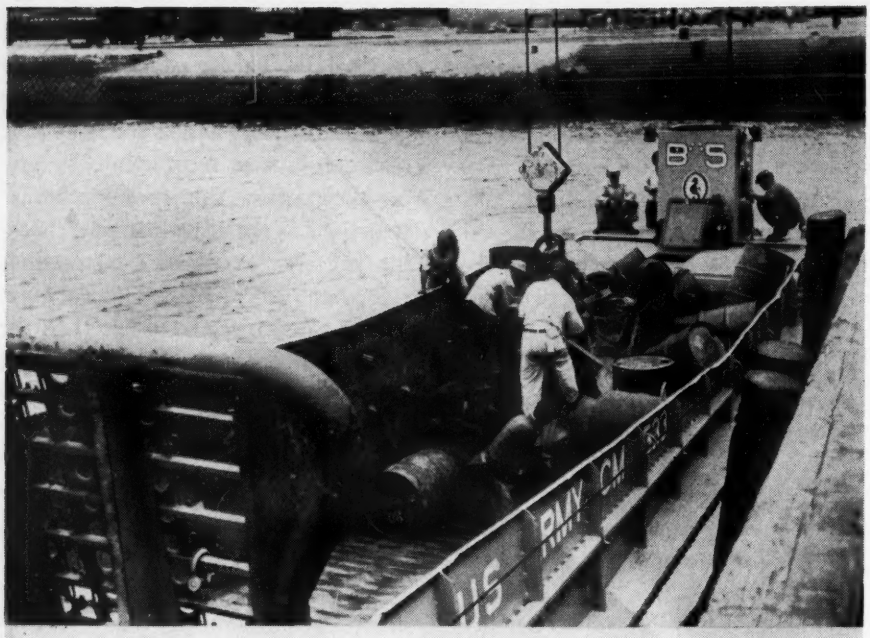
Arriving to start a new forced-air furnace after the installation crew has finished its work, a good service man does not assume the equipment and the installation work are perfect. He does not assume a thing. He makes sure of everything related to the performance of the heating plant. Before he leaves, he must know that everything is all right.

The 15-Point Check-List which accompanies this article includes items which many service experts have been checking right along as they prepared forced-air jobs for operation. Dealers are invited to use this form as it appears here, or to alter it to suit themselves and the particular equipment they handle. The big point is that many dealers are now in a position to save time and money, and at the same time insure consumer satisfaction, by giving their service men such specific instructions as the accompanying check-list suggests. A dealer's instructions regarding a particular installation should be even more specific than the form which appears here. The dealer can instruct his service man, for example, to adjust for a particular over-fire draft, to expect a particular stack temperature, to install a certain size and type nozzle in the furnace, and to arrive at particular fpm readings from the supply registers. Furnace manufacturers in many cases can help dealers provide specific instructions for service men. The men who design the heating plants can help, in certain cases, by indicating the proper fpm figures for supply and return registers and indicating the performance they expect from the furnaces. The man who provides the specific instructions for the service man should by all means start up half a dozen installations himself, where for example, dozens or hundreds of homes in a particular building development are being fitted with identical heating systems and forced-air furnaces. Or at least the boss, who provides the specific instructions, should watch a service man go through the paces of starting half a dozen jobs. Practicability should be put at the mightiest premium. Excellent instructions help produce excellent heating. As far as the quality of the instructions is concerned, the proof of the pudding is in the heating.

Type of Check-List to use

A dealer who gives his service man such specific instructions as this check-list suggests need not have an expensive form printed at the beginning of his start-up improvement program. Typewritten forms and carbon copies work out very well. Verbal instructions work out all right in certain instances, especially if in addition to being instructed verbally the service man is given a small pocket-size form to fill out on each installation, bearing only condensed titles of the operations

(*Please turn to page* 166)



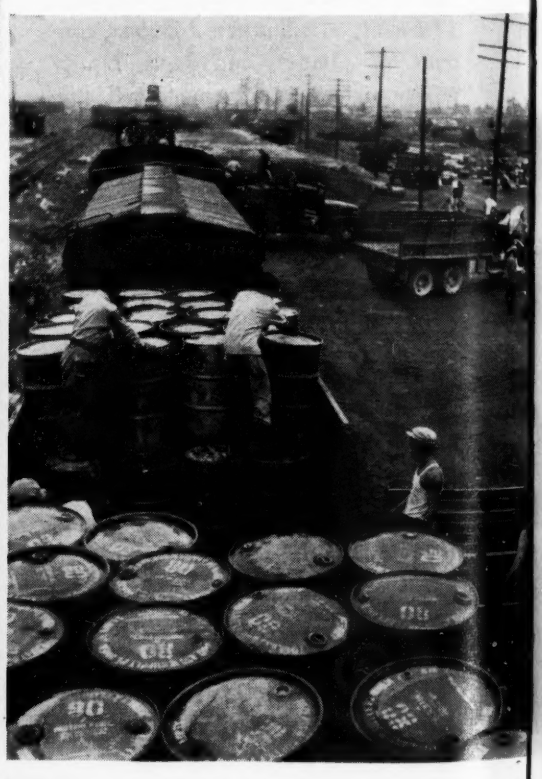
Oil in

NO OTHER COMMODITY is more important to the successful prosecution of present day warfare than petroleum and its many products. This fact, so conclusively proved during World War II, is even more evident today in Korea, as these pictures from the American Petroleum Institute will testify.

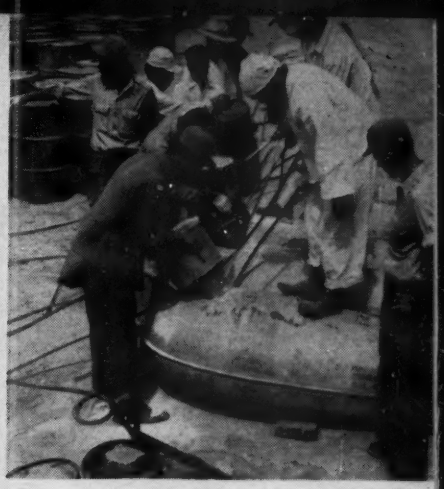
The left top picture shows drums of petroleum being unloaded from a landing barge in the harbor at Inchon, a large supply port on the west coast of Korea. Immediately below, South Koreans roll the drums to a storage area, where they are transferred to waiting railroad trains.

Principal distribution channel to the fighting front has the trains moving the oil to a supply dump for ultimate use at the front. The picture below shows one of these supply trains at the end of the rail line, where its cargo of gasoline and oil will be placed on Army trucks.

The next sequence of pictures on the facing page depicts some of the ways in which these drums of gasoline and oil are used. The helicopter is sitting in a field next to an air evacuation hospital somewhere in Korea, and the jeep has towed a supply of gaso-



Korea



line and oil alongside to refuel the helicopter. By utilizing fleets of these machines the Air Force and Medical Corps have combined their efforts in saving the lives of many wounded UN soldiers who were lifted from the fighting line to rear area hospitals quickly and safely. The helicopter also has proven its worth for observation of enemy forces.

The fighter plane being refueled has set down on an emergency air strip in Korea, with South Korean workers rolling drums of fuel up to the side of this P-80 jet fighter. With air strips and refueling methods such as this many Air Force squadrons have been operating on near round-the-clock schedules, pausing only for necessary briefing and refueling.

The long lines of light metal containers and row upon row of gasoline drums stored at an advance air base in Korea mean only two things: more napalm bombs and more bad news for the enemy. Supervised by GI's South Koreans blend a mixture of gasoline, napalm, or gasoline thickener, place it, with a white phosphorous igniter, into the metal tanks, which then become the bombs. Attached under the wings of P-51 fighters, the pilot acts as the marksman and the bomb does the rest!

The last pair of pictures at the bottom of the page illustrates two more of the rugged uses of oil in Korea. At a forward area petroleum depot, South Koreans work a hand pump to transfer gasoline from 55 gal. drums to the rows of 5 gal. gas cans. As soon as the cans are filled, they will be used to fuel up American tank units operating in this sector.

The Korean "service station" 1951 model has a UN jeep being filled up with gasoline at a roadside petroleum dump, with a truck waiting in line. Similar gasoline and oil depots, situated at strategic points directly behind the front, make refueling of UN vehicles possible with little time lost.

Oil, so vital to peacetime and civilian pursuits, becomes indispensable in wartime and without it UN mechanized forces at the Korean front would be hopelessly stalled. Modern warfare's speed, mechanization and mobility make it imperative that a constant stream of oil products reach the fighting front without interruption.

Central Heating in metropolitan Areas

A SURVEY, conducted by the Bureau of Labor Statistics, U. S. Dept. of Labor, in December 1949, January and February 1950, showed that most dwelling units in metropolitan areas are centrally heated. Out of 34 areas surveyed, only 11 districts in the South had fewer centrally heated units than those heated by other means or having no heating facilities.

In Philadelphia and Washington, for example, more than 9 out of 10 occupied units were installed with central heating equipment, whereas only 55% of the dwellings in Manchester, N. H., were so equipped. Among occupied dwelling units with installed kitchen facilities, central heating in use ranged from 1.8% in Mobile to 95.6% in Philadelphia. Remaining units in Mobile, the survey discovered, has other installed means of heating in 86.4% of them and had other not installed heating or none in 11.8%.

The range for "Other Installed" (heating, including space heaters, wall furnaces and similar units) varied from 2.6% in Philadelphia to 92.1% in Savannah. Units with other heating means (portable) or none, ranged from 0.1% in Atlanta to 42.4% in Jacksonville.

Percentage Distribution of type of Heating Equipment in occupied Dwelling Units with Kitchen Facilities

(Bureau of Labor Statistics)

			OCCUPIED UNITS WITH KITCHEN FACILITIES — HEATING		
Area	*No. of Dwelling Units*	*% of All Units*	*% Central*	*% Other Installed*	*% Other Or None*
Atlanta	130,000	98.3	33.6	66.3	0.1
Baltimore	316,000	97.8	83.1	12.7	4.2
Birmingham	119,000	97.9	24.4	73.8	1.8
Boston	415,000	98.2	82.5	13.9	3.6
Buffalo	206,000	98.6	69.0	29.3	1.7
Chicago	1,284,000	98.2	77.7	21.4	.9
Cincinnati	252,000	97.9	74.4	22.9	2.7
Cleveland	372,000	97.0	84.7	14.4	.9
Denver	141,000	97.9	74.2	21.8	4.0
Detroit	707,000	98.0	85.1	14.6	.3
Houston	211,000	95.4	7.1	90.9	2.0
Indianapolis	143,000	98.1	75.7	18.0	6.3
Jacksonville	63,000	98.1	3.8	53.8	42.4
Kansas City, Mo. and Kans.	196,000	98.2	84.0	14.6	1.4
Los Angeles	1,299,000	96.3	15.1	58.5	26.4
Manchester, N. H.	21,000	97.3	55.4	43.7	.9
Memphis	98,000	96.0	19.9	70.3	9.8
Milwaukee	222,000	98.1	87.9	11.7	.4
Minneapolis-St. Paul	278,000	94.2	86.4	11.7	1.9
Mobile	48,000	95.5	1.8	86.4	11.8
New Orleans	180,000	95.6	7.8	80.5	11.7
New York City*	2,336,000	98.0	89.7	8.2	2.1
Norfolk	129,000	98.1	36.2	51.8	12.0
Philadelphia	676,000	97.6	95.6	2.6	1.8
Pittsburgh	358,000	98.6	77.7	16.7	5.6
Portland, Me.	31,000	96.9	75.4	14.8	9.8
Portland, Oreg.	158,000	95.0	73.4	24.5	2.1
Richmond	71,000	97.5	54.1	43.8	2.1
St. Louis	372,000	98.0	72.3	26.1	1.6
San Francisco	535,000	95.8	44.1	48.7	7.2
Savannah	38,000	93.9	4.8	92.1	3.1
Scranton	70,000	98.8	74.9	20.8	4.3
Seattle	198,000	96.5	64.1	30.8	5.1
Washington	354,000	97.5	91.1	6.8	2.1

*City proper. Not metropolitan area.

Figures in the accompanying table were furnished by the Bureau of Labor Statistics. The first column is the total number of dwelling units found in the indicated metropolitan areas, with figures on heating facilities representing percentages of occupied dwelling units with kitchen facilities, not of total dwelling units.

All Cities include adjacent suburban and related areas, except New York City, figures for which cover only the five boroughs of the City and do not include Nassau or Westchester Counties.

New York price Trends for No. 6 Oil-bituminous Coal

A TABULATION, published in the *New York Journal of Commerce*, shows the relative trend in coal and oil prices since 1946 in New York City. The figures, it is explained, present a yardstick for comparison and do not represent actual coal-oil parities which vary with every plant.

In compiling the table, 0.240 tons of bituminous coal was used as the rough equivalent of a barrel of No. 6 fueloil. Portions of the table reproduced contain figures for the months of June and December, as well as the average for each year, with the exception of 1951, for which October prices are the latest available.

	Average Wholesale Bituminous Mine-Run Coal at New York*	*Price at N. Y. of 0.240** Tons of Bituminous*	*No. 6 Oil At N. Y. In Tank Car*
Oct. 1951	$10.286	$2.47	$2.45
June 1951	10.141	2.43	2.41
Year avg.	9.752	2.34	2.08
Dec. 1950	9.670	2.32	2.15
June 1950	9.815	2.36	2.05
Year avg.	9.713	2.33	1.93
Dec. 1949	9.828	2.36	2.05
June 1949	9.547	2.29	1.63
Year avg.	9.235	2.22	3.00
Dec. 1948	9.685	2.32	2.76
June 1948	9.084	2.18	3.03
Year avg.	8.053	1.93	2.24
Dec. 1947	8.575	2.06	2.72
June 1947	7.584	1.82	2.22
Year avg.	6.841	1.64	1.76
Dec. 1946	7.318	1.76	1.92
June 1946	6.717	1.61	1.72

*Coal price from Bureau of Labor Statistics.

**Bureau of Mines conversion ratio.

demand DETROIT CERTIFIED CONTROLS

"Experience Engineered"

INSIDE and OUT!

the **DETROIT CRC-633**

FUEL TRANSFER PUMP

- ★ **HEAVY RUGGED CONSTRUCTION**—The best of materials and fine workmanship plus heavy gauge steel for strength, assure long trouble-free service.
- ★ **NO RETURN OR OVERFLOW LINE REQUIRED**—Use of two switches eliminates need of overflow line. Rugged steel linkages connect floats and switches. Available with half-inch overflow connection if required by local codes.
- ★ **POWERFUL MOTOR**—Fan cooled to prevent overheating—equipped with easily lubricated, long life bearings.
- ★ **STAINLESS STEEL VANES**—Equipped with mechanically loaded, stainless steel pump vanes—all pump parts precision-machined for quiet, efficient, long life operation.
- ★ **STRAINER AND BALL CHECK**—100-mesh monel metal strainer easily removed for cleaning—strainer housing includes ball check to assure holding pump prime during long off periods.
- ★ **CAPACITY**—Delivery capacity 3 gallons per hour at a 25 ft. lift with No. 1 and No. 2 fuel oil, or Pacific Coast Diesel Oil.

Inside and out, the new DETROIT CRC-633 fuel transfer pump is a truly remarkable advance in the oil burner equipment field. Its many new and outstanding features, resulting from constant year-in, year-out experience in manufacturing oil heating equipment, give positive assurance of quiet, reliable and trouble-free operation. In every way the CRC-633 has been engineered to excel. Contact your nearest DETROIT wholesaler and ask for the DETROIT CRC-633—your inspection will convince you that DETROIT experience, engineering and insight have made it the finest fuel transfer pump obtainable!

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LUBRICATOR COMPANY

5900 TRUMBULL AVE., DETROIT 8, MICHIGAN
Division of American Radiator & Standard Sanitary Corporation
Canadian Representatives: RAILWAY & ENGINEERING SPECIALTIES, LTD.—Montreal, Toronto, Winnipeg

"DETROIT"

DETROIT HEATING AND REFRIGERATION CONTROLS • ENGINE SAFETY CONTROLS • FLOAT VALVES AND OIL BURNER EQUIPMENT • DETROIT EXPANSION VALVES AND REFRIGERATION ACCESSORIES • STATIONARY AND LOCOMOTIVE LUBRICATORS

Serving home and industry. AMERICAN-STANDARD • AMERICAN BLOWER • CHURCH SEATS • DETROIT LUBRICATOR • KEWANEE BOILERS • ROSS HEATER • TONAWANDA IRON

Records topple as Petroleum Products reach new Peak

THE YEAR END REVIEW, released by the American Petroleum Institute, New York 20, N. Y., points out that records toppled in 1951 as domestic demand for petroleum products hit an all-time peak for the ninth consecutive year and total demand, including exports, continued its upward swing to mark a new peak. Domestic records maintained their pace-setting upward spiral, reaching new highs in well completions, increased refinery capacity, amount of crude oil processed in refineries, fueloil and other products. Many factors contributed to this increase, chiefly, the nation's stepped up mobilization program, greater civilian consumption and increase of U. S. output to offset the shutdown of Iranian oil fields.

Domestic crude demand increased to an estimated 2,568 million barrels as U. S. crude oil production exceeded the two billion mark for the second time in history. Daily domestic demand averaged 7,036,000 barrels, outracing by 537,000 barrels per day the 1950 figures for an 8% increase. With production of natural gas liquids jumping to 204 million barrels, total production of U. S. liquid petroleum crashed the 1948 peak with 2,449 million barrels for the year.

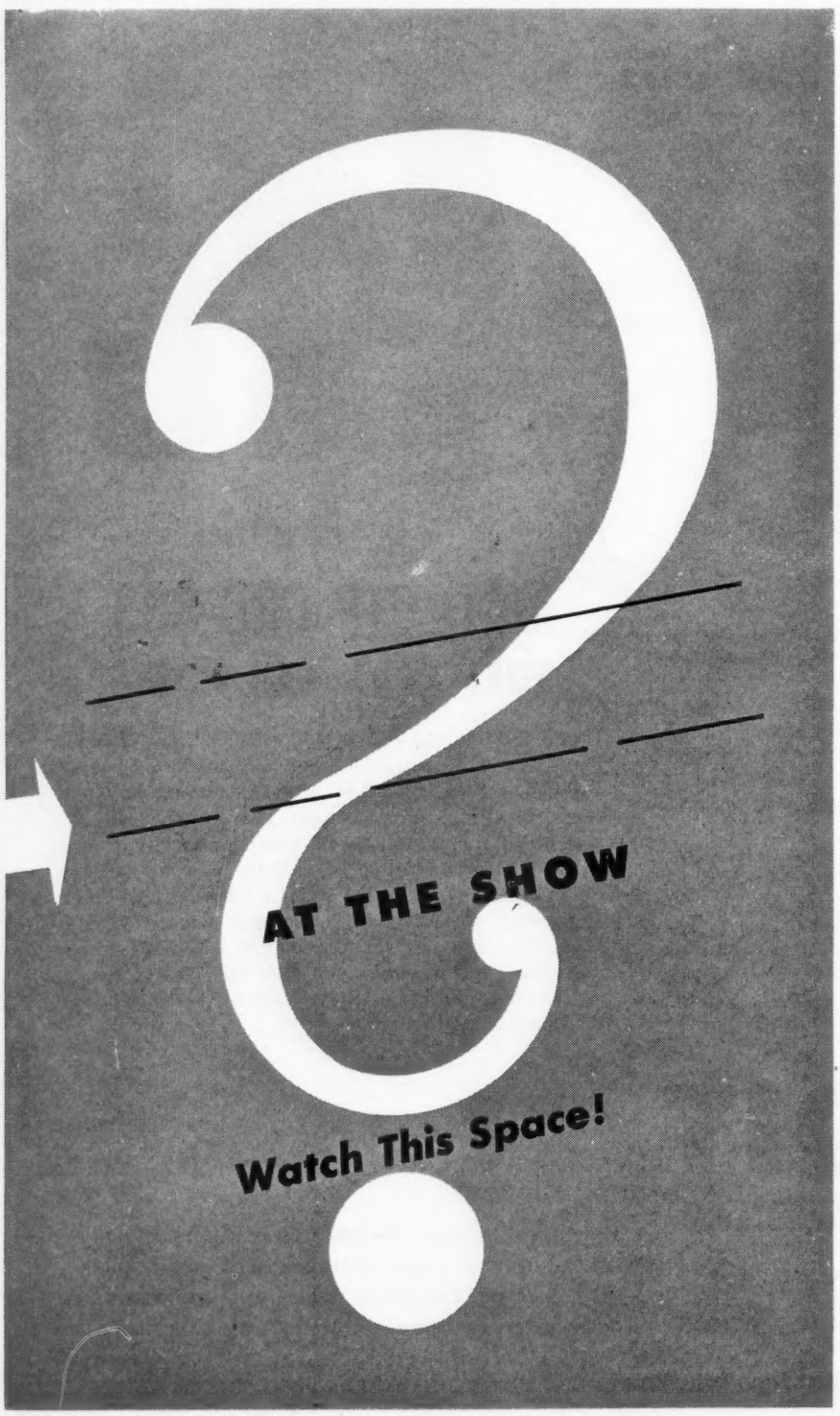
Demand for gas, oil and distillates rose 19% over 1950 as residual production went to 468 million barrels. Total production of fueloil thus reached its highest point—83 million barrels over the peak year 1948.

Refinery capacity was pushed up to

Fueloil Produced in U. S. Refineries
(*Barrels*)

Year	*Gas, Oil and Distillates*	*Residual Fueloil*	*Total Fueloil*
1939	161,746,000	305,944,000	467,690,000
1940	183,304,000	316,221,000	499,525,000
1941	189,177,000	342,367,000	531,544,000
1942	196,714,000	358,901,000	555,615,000
1943	211,516,000	417,306,000	628,822,000
1944	239,152,000	461,455,000	700,607,000
1945	249,224,000	469,492,000	718,716,000
1946	287,896,000	431,364,000	719,260,000
1947	312,173,000	447,795,000	759,968,000
1948	380,700,000	479,988,000	860,688,000
1949	340,825,000	424,909,000	765,734,000
1950	398,912,000	425,217,000	824,129,000
1951*	475,300,000	468,400,000	943,700,000

*Estimated. Authority: Bureau of Mines.



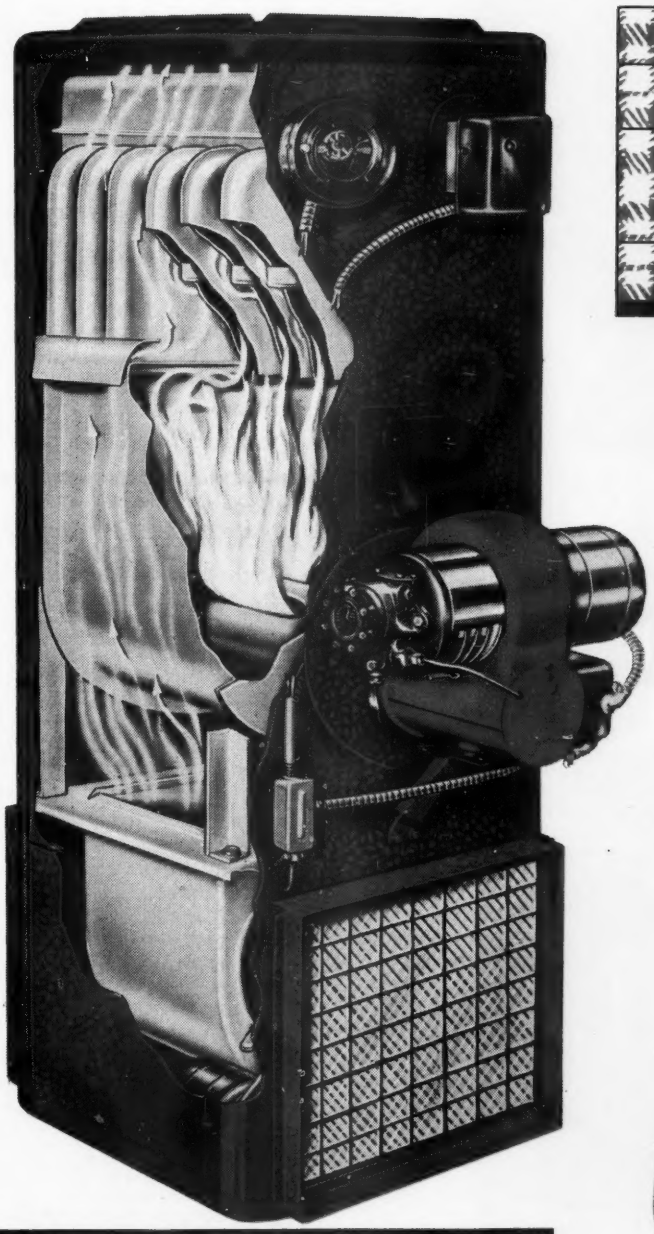
Index of Wholesale Prices
1926 = 100

	Crude Petroleum and Petroleum Products	*All Commodities*
1939	52.2	77.1
1940	50.0	78.6
1941	57.0	87.3
1942	59.8	98.8
1943	62.5	103.1
1944	63.9	104.0
1945	63.5	105.8
1946	67.5	121.1
1947	90.0	151.8
1948	122.1	165.1
1949	112.2	155.0
1950	113.9	161.5
1951*	120.1	180.2

*Estimated. Authority: Bureau of Labor Statistics.

SELL GILBARCO

THRIFTY HEAT



FEATURE THIS NEW LOW-COST
WARM AIR CONDITIONER
FOR BIGGER PROFITS IN '52

Designed for large volume sales in the vast small home market . . . 75,000 B.t.u. capacity.

A completely packaged unit for easy handling and fast, inexpensive installation.

Priced l-o-w. But bearing a well-known name which has always been recognized as warranting high quality.

Assured Economy—the GVU-75 has the exclusive and patented Economy Clutch . . . still the most valuable single sales feature in the oil-heating equipment field.

LOW IN COST . . . TOPS IN QUALITY
. . . THEREFORE EASIER TO SELL

Gilbarco

THE OIL BURNER WITH THE ECONOMY CLUTCH

GILBERT & BARKER MANUFACTURING COMPANY West Springfield, Mass., Toronto, Canada

fueloil & oilheat

a new high and now stands at 7,230,000 barrels per day against 6,963,644 barrels per day last year. This capacity is 46% over 1941.

The U. S., with roughly one-third the world's oil resources, accounted for 56% of the world's total production of crude oil, or an increase of 4%, reversing the trend of recent years. World production of crude oil reached an all-time high of 3,986 million barrels, as U. S. exports increased 45 million barrels to total 156 million barrels for the year.

NPA readies Committee to study Plan for saving Aluminum

A PLAN to conserve aluminum by using cast-iron and other substitutes satisfactory for replacing the light metal in oilburners, developed by the National Production Authority is beginning to get underway. It is estimated that about 100,000 lbs. of aluminum from a normal consumption of 650,000 lbs. each quarter year can be saved by burner manufacturers.

It was announced that the NPA soon will appoint a special committee from its Oilburner Industry Advisory Committee following a meeting between that committee and the agency.

In a statement after the meeting, NPA said:

"The committee also recommended to NPA that allotments of controlled materials to the industry be given to manufacturers at least three months in advance of the quarter in which they are to be used . . . Early receipt of allotments by manufacturers would aid them in placing orders at mills and in establishing their own production schedules. . . .

"The supply of aluminum castings may improve in the second half of 1953, NPA said, because of the advent of a new aluminum producer in the field, namely Anaconda-Harvey. Also, it was noted that Kaiser recently opened an alumina reduction plant in New Orleans."

The NPA further said that:

"One committee representative said that some oilburner manufacturers have also gone into production of oilburner tanks to assure the sales of their oilburners, since oilburners are no good without tanks."

Charles H. Burkhardt, of NPA's building materials division, presided.

The following committee members attended: J. V. Resek, oilburner div. of Cleaver Brooks Co., Milwaukee; L. A. Casler, Eureka Williams Corp., Williams Oil-O-Matic div., Bloomington, Ill.; Raymond Grant, Long Mfg. Co., Tarboro, N. C.; Edward K. Priest, Lynn Products Co., Lynn, Mass.; R. C. Vroom, Peabody Engineering Co., N. Y.; R. S. Bohn, Preferred Utilties Mfg. Corp., N. Y.; Russell C. Westover, Jr., Ray Oil Burner Co., San Francisco; and Grey C. Knowles, Fluid Heat Div., Anchor Post Fence Co., Baltimore, Md.

PICTURE
of
a
perfect
OIL BURNER FILTER
You'll admire Eddington Oil Burner Filters as much as we do, after you've used them. Because you'll find they reduce service interruptions to a minimum; require infrequent cartridge change; keep customers happy. The Eddington framed above is BIG in filter area, does an efficient filtering job. Another nice thing about it—you can replace it without breaking the oil line. Interchangeable with other makes, of course.
OIL BURNER NOZZLE
Scientifically correct for spray angle, atomization, rated capacity. Large-capacity Monel strainer in nozzle makes cleaning a mighty infrequent chore.
Drop us a postal for full and prompt information on any product we make.
Eddington METAL SPECIALTY COMPANY
EDDINGTON PENNSYLVANIA
MAKERS OF
FILTERS • NOZZLES • VALVES • STABILIZERS
AIR CONES • STRAINERS • INSPECTION MIRRORS
ADAPTORS • SERVICEMEN'S NOZZLE KITS

Census Report shows bulk Storage for 1948

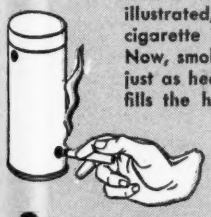
A SPECIAL TABULATION made during the 1948 Census of Business by the Bureau of the Census for A. J. McIntosh of the Socony-Vacuum Oil Co., Inc., gathered information on storage

The TIN CAN TEST *PROVES* Air-Seel FUEL SAVINGS

Got a cigarette . . . and a tin can?
It's as easy as that to prove Air-Seel's fuel saving features to yourself . . . and your customers.

Just follow these 3 simple steps:

1 Using an empty tin can with 2 holes, placed as illustrated, put a lighted cigarette in lower hole. Now, smoke fills can . . . just as heat from burner fills the heating system.



2 Remove cigarette, cold air entering bottom hole drives smoke out top hole . . . in the same way cold air entering heating plant drives heat out the chimney.

3 Place thumb against lower hole. Smoke stays in can . . . as Air-Seel keeps heat in the heating system by preventing air from entering the burner.

When Air-Seel burner stops, its specially designed fan blades automatically fold flat against each other . . . sealing in heat . . . locking out heat-wasting cold air . . . unlike ordinary burners, which allow cold air to enter during "off" periods, thereby cooling off the entire system. Air-Seel saves heat . . . fuel . . . and valuable fuel dollars.

This is a "dollar-saving" story that's easy to tell . . . easy to sell . . . and Air-Seel means bigger profits for you, too.

Those Who Know Choose SILENT GLOW OIL BURNERS

To: THE SILENT GLOW OIL BURNER CORP
850 Windsor Street, Hartford 5, Connecticut
1500 So. Western Ave., Chicago 8, Illinois

Please send me information on Air-Seel.

Name: _____

Company: _____

Street & No.: _____

City: _____ *State:* _____

7SL51

capacity of bulk plants operated by independent fueloil marketers, as distinguished from the bulk plants maintained by petroleum refiner marketers and distributing terminals.

A total of 7,369 such bulk plants throughout the country reported total storage capacity of 489,635,000 gallons for the year 1948, with the largest number of them, 7,178, having less than 300,000 gallons storage each. There were 70 bulk plants with capacities between 300,000 and 599,999 gallons; 31 with storage facilities for 600,000 to 899,999 gallons; 20 plants storing between 900,000 and 1,199,999 gallons and 70 showing storage in excess of 1,200,000 gallons.

The state breakdown in the table tabulates this information for 1948, separated by capacities of bulk plants.

Storage Capacity for distillate fueloils by State and storage Capacity for distillate Fueloil size Group: 1948

(Other than refiner marketer petroleum bulk stations and distributing terminals)

State, by storage capacity for distillate fuel oil size group	Total: Establishments (Number)	Total: Storage capacity for distillate fuel oils (Thousand gallons)
United States, total	7,369	489,635
Less than 300,000 gals	7,178	177,751
300,000—599,999 gals.	70	31,346
600,000—899,999 gals.	31	22,420
900,000—1,999,999 gals.	20	20,260
More than 1,200,000 gals.	70	237,858
NEW ENGLAND:		
Maine, total	52	3,267
Less than 300,000 gals.	49	1,064
300,000—599,999 gals.	1	450*
600,000—899,999 gals.	1	804*
900,000—1,199,999 gals.	1	969*
New Hampshire, total	27	1,051
Less than 300,000 gals.	26	601*
300,000—599,999 gals.	1	450*
Vermont, total	16	383
Less than 300,000 gals.	16	383
Massachusetts, total	73	37,131
Less than 300,000 gals.	63	2,951
300,000—599,999 gals.	3	1,650
More than 1,200,000 gals.	7	32,530
Rhode Island, total	17	5,811
Less than 300,000 gals.	12	396
300,000—599,999 gals.	3	900*
600,000—899,999 gals.	1	600*
More than 1,200,000 gals.	1	3,915*
Connecticut, total	52	46,908
Less than 300,000 gals.	34	2,067
300,000—599,999 gals.	4	1,800*
600,000—899,999 gals.	1	850*
900,000—1,999,999 gals.	1	1,106*
More than 1,200,000 gals.	12	41,085
MIDDLE ATLANTIC:		
New York, total	320	89,607
Less than 300,000 gals.	262	9,164
300,000—599,999 gals.	20	9,324
600,000—899,999 gals.	13	9,847
900,000—1,199,999 gals.	6	6,123
More than 1,200,000 gals.	19	55,149
New Jersey, total	80	41,176
Less than 300,000 gals.	63	3,113
300,000—599,999 gals.	3	1,403
600,000—899,999 gals.	3	2,052*
900,000—1,199,999 gals.	2	2,000*
More than 1,200,000 gals.	9	32,608
Pennsylvania, total	207	13,676
Less than 300,000 gals.	202	7,094
300,000—599,999 gals.	2	600*
600,000—899,999 gals.	1	600*
More than 1,200,000 gals.	2	5,382*
EAST NORTH CENTRAL:		
Ohio, total	201	15,035
Less than 300,000 gals.	197	5,112
600,000—899,999 gals.	3	1,800*
More than 1,200,000 gals.	1	8,123*
Indiana, total	198	6,774
Less than 300,000 gals.	197	6,324*
300,000—599,999 gals.	1	450*
Illinois, total	425	33,066
Less than 300,000 gals.	413	12,960
300,000—599,999 gals.	5	1,796
600,000—899,999 gals.	1	600*
900,000—1,199,999 gals.	2	2,108*
More than 1,200,000 gals.	4	15,602
Michigan, total	340	24,047
Less than 300,000 gals.	326	14,390
300,000—599,999 gals.	9	3,897
600,000—899,999 gals.	2	1,500*
900,000—1,199,999 gals.	2	1,900*
More than 1,200,000 gals.	1	2,360*

(Continued)

"Zilch oilheating units? ...never heard of 'em!"

That's right—you *haven't* heard of this imaginary brand. But last year our industry was producing 468 different brands of oilburners, 214 makes of furnaces, and 134 boiler brands.

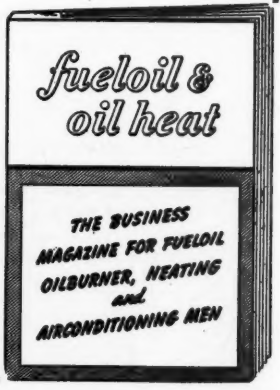
The majority of these products are unadvertised—that's why most of their names are as unfamiliar to you as the mythical Zilch units. This lack of brand-name acceptance is the principal reason dealers and jobbers resist buying the unadvertised makes.

Advertising builds brand-reputation, increases good-will, and conditions dealers and jobbers to *buy*. Back up your own selling efforts by advertising in FUELOIL & OIL HEAT. Start now with the February issue!

Final advertising forms close January 25th

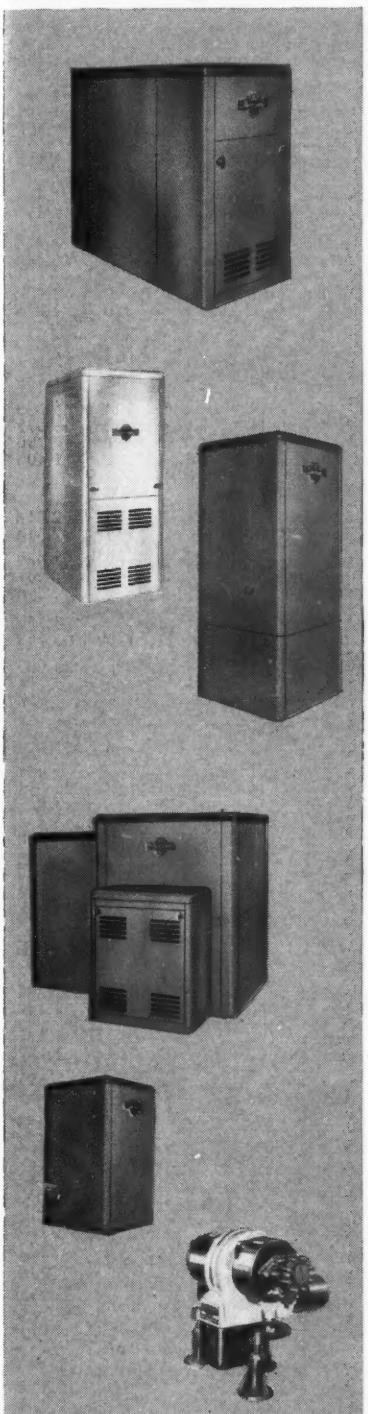
Published by Heating Publishers, Inc.
232 Madison Ave., New York 16, N. Y.
Midwest: 549 W. Washington Blvd., Chicago, Ill.

For 33 Years the Industry's Authority



SATISFY *all* YOUR CUSTOMERS

WITH ONE LINE OF HEATING EQUIPMENT



Waterbury

OIL-FIRED FURNACES
WINTER AIR CONDITIONERS
CONVERSION BURNERS

The dealer who carries Waterbury warm air heating equipment is assured of having a unit for every job. Whether it be for a small house, the corner store or the church up the street... there is a Waterbury unit to satisfy all your customers.

Every Waterbury dealer knows that the name Waterbury means consumer acceptance. By word-of-mouth from satisfied owners . . . through national advertising and effective merchandising ... Waterbury has built a reputation for giving economical, dependable trouble-free heating service for years.

Oil-Fired Winter Air Conditioner—13 sizes: from 84,000 BTU to 504,000 BTU.

Oil-Fired Hi-Boy—3 sizes: from 84,000 BTU to 151,000 BTU.

Oil-Fired Downflo—2 sizes: from 84,000 BTU to 112,000 BTU.

Oil-Fired Gravity—3 sizes: from 78,000 BTU to 142,000 BTU.

"It's what's under the casing that counts!"

There are Waterbury units for oil, gas, or coal

The Waterman-Waterbury Co.

OVER 45 YEARS OF WARM AIR HEATING

1171 JACKSON STREET N. E. • MINNEAPOLIS 13, MINNESOTA

(Begins on page 82)

State, by storage capacity for distillate fuel oil size group	Total: Establishments (Number)	Total: Storage capacity for distillate fuel oils (Thousand gallons)
Wisconsin, total	420	23,400
Less than 300,000 gals.	411	16,334
300,000—599,999 gals.	3	1,154
600,000—899,999 gals.	3	2,131
900,000—1,199,999 gals.	2	2,100*
More than 1,200,000 gals.	1	1,681*
WEST NORTH CENTRAL:		
Minnesota, total	534	22,348
Less than 300,000 gals.	528	14,113
300,000—599,999 gals.	2	746*
900,000—1,199,999 gals.	2	1,954*
More than 1,200,000 gals.	2	5,335*
Iowa, total	587	19,301
Less than 300,000 gals.	583	15,975
300,000—599,999 gals.	3	1,050*
More than 1,200,000 gals.	1	2,276*
Missouri, total	299	8,842
Less than 300,000 gals.	295	6,081
300,000—599,999 gals.	2	900*
600,000—899,999 gals.	1	861*
900,000—1,199,999 gals.	1	1,000*
North Dakota, total	210	3,488
Less than 300,000 gals.	210	3,488
South Dakota, total	227	3,888
Less than 300,000 gals.	227	3,888
Nebraska, total	230	5,955
Less than 300,000 gals.	229	3,467*
More than 1,200,000 gals.	1	2,488*
Kansas, total	423	4,537
Less than 300,000 gals.	422	4,087*
300,000—599,999 gals.	1	450*
SOUTH ATLANTIC:		
Delaware, total	11	2,922
Less than 300,000 gals.	10	271*
More than 1,200,000 gals.	1	2,651*
Maryland, total	54	7,556
Less than 300,000 gals.	53	1,916*
More than 1,200,000 gals.	1	5,640*
District of Columbia, total	4	1,770
Less than 300,000 gals.	3	150*
More than 1,200,000 gals.	1	1,620*
Virginia, total	92	5,696
Less than 300,000 gals.	89	1,741
300,000—599,999 gals.	1	450*
900,000—1,199,999 gals.	1	950*
More than 1,200,000 gals.	1	2,555*
West Virginia, total	19	196
Less than 300,000 gals.	19	196
North Carolina	206	3,409
Less than 300,000 gals.	206	3,409
South Carolina, total	90	1,034
Less than 300,000 gals.	90	1,034
Georgia, total	200	7,453
Less than 300,000 gals.	199	5,557*
More than 1,200,000 gals.	1	1,896*
Florida, total	124	5,833
Less than 300,000 gals.	122	3,675*
600,000—899,999 gals.	1	750*
More than 1,200,000 gals.	1	1,408*
EAST SOUTH CENTRAL:		
Kentucky, total	137	2,314
Less than 300,000 gals.	137	2,314
Tennessee, total	62	1,847
Less than 300,000 gals.	61	1,397*
300,000—599,999 gals.	1	450*
Alabama, total	179	3,752
Less than 300,000 gals.	179	3,752
Mississippi, total	183	3,963
Less than 300,000 gals.	182	3,513*
300,000—599,999 gals.	1	450*
WEST SOUTH CENTRAL:		
Arkansas, total	59	981
Less than 300,000 gals.	59	981
Louisiana, total	101	2,030
Less than 300,000 gals.	100	1,580*
300,000—599,999 gals.	1	450*
Oklahoma, total	59	539
Less than 300,000 gals.	59	539
Texas, total	141	9,940
Less than 300,000 gals.	140	2,477*
More than 1,200,000 gals.	1	7,463*
MOUNTAIN:		
Montana, total	153	2,292
Less than 300,000 gals.	153	2,292
Idaho, total	64	1,127
Less than 300,000 gals.	64	1,127
Wyoming, total	47	315
Less than 300,000 gals.	47	315
Colorado, total	119	1,723
Less than 300,000 gals.	119	1,723
New Mexico, total	28	281
Less than 300,000 gals.	28	281
Arizona, total	21	319
Less than 300,000 gals.	21	319
Utah, total	21	280
Less than 300,000 gals.	21	280
Nevada, total	3	326
Less than 300,000 gals.	2	26*
300,000—599,999 gals.	1	300*
PACIFIC:		
Washington, total	60	1,454
Less than 300,000 gals.	60	1,454
Oregon, total	39	2,391
Less than 300,000 gals.	38	683*
More than 1,200,000 gals.	1	1,708*
California, total	155	8,201
Less than 300,000 gals.	152	2,918
300,000—599,999 gals.	2	900*
More than 1,200,000 gals.	1	4,383*

*Withheld to avoid disclosure.

Note: Figures before asterisk have been estimated by Socony-Vacuum Oil Company. The individual states add up to the totals shown for the United States for the two largest size groups. No attempt was made to reconcile the smaller groups with U. S. total, but each state balances itself.

Fulflo Filters

Fulflo and you ...for 1952

FOR FREEDOM FROM COSTLY SERVICE CALLS

A few Dealers are faced with a decision this January as to the Oil Burner Filter they will use for the coming year. Most Dealers however will continue to use FULFLO Filters. More Dealers will use FULFLO than any other Filter because they have learned that FULFLO gives them the most dependable protection against all troubles arising from oil impurities.

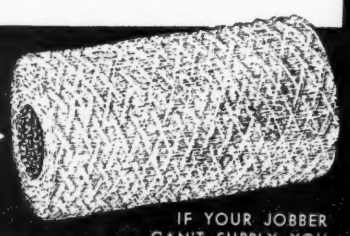
If YOU haven't decided what Filter to use for 1952 you should carefully consider these three facts:

1. The Honeycomb Filter Tube of a FULFLO Filter gives true depth filtration of precision controlled density, ensuring fuel of microscopic clarity at all times.
2. There are many more FULFLO Filters than any other make on the Oil Burners of America.
3. FULFLO Filters lead all others in sales because they lead in performance. . . . Dealers everywhere have found them the most dependable protection against oil impurities.

USE FULFLO FILTERS TO STOP COSTLY SERVICE CALLS

More Dealers and Jobbers stock HONEYCOMB FILTER TUBES than any other Oil Filter refill.

True depth filtration ensures fuel of microscopic clarity.



IF YOUR JOBBER CAN'T SUPPLY YOU WRITE OR WIRE US

COMMERCIAL FILTERS CORPORATION
Boston 27, Massachusetts

NOW GENERAL AUTOMATIC OFFERS YOU

TWO FOR '52!

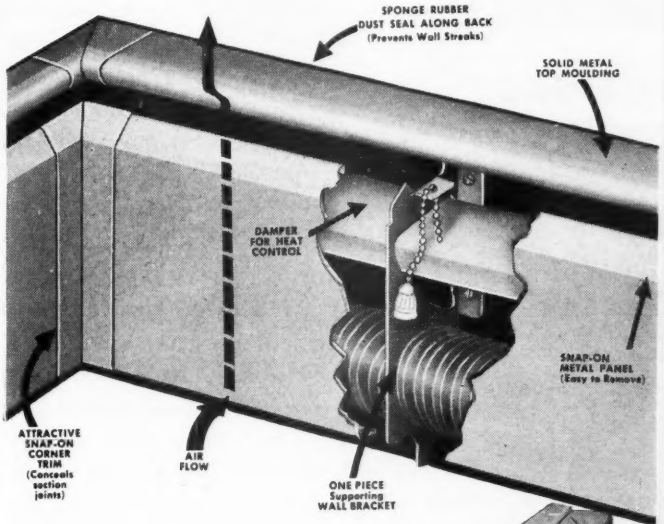
2 (All-in-one) PACKAGES

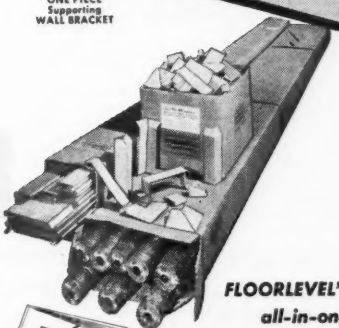
THAT WILL LOWER LABOR COSTS AND INCREASE PROFITS!

HOT WATER HEAT FOR ANY SIZE JOB . . .

floorlevel

HOT WATER BASEBOARD RADIATION


SPONGE RUBBER DUST SEAL ALONG BACK (Prevents Wall Streaks)
SOLID METAL TOP MOULDING
DAMPER FOR HEAT CONTROL
SNAP-ON METAL PANEL (Easy to Remove)
ATTRACTIVE SNAP-ON CORNER TRIM (Conceals section joints)
AIR FLOW
ONE PIECE Supporting WALL BRACKET



FLOORLEVEL'S all-in-one profit package.

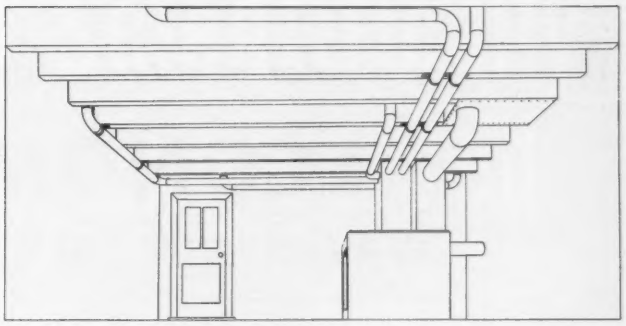
A COMPLETE PACKAGE . . .

Including:

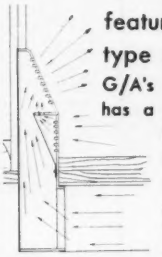
Fin-type heating element, front panel and top moulding—packaged in convenient ten foot lengths. Wall brackets, inside corners, outside corners and splices.

Send for **SPEC. 56** Find out how you can increase sales, profits, and customer satisfaction with this Floorlevel package . . . *NOW!*

WARM AIR HEAT FOR SMALL HOMES . . .

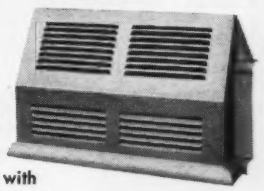


temp-RD Air

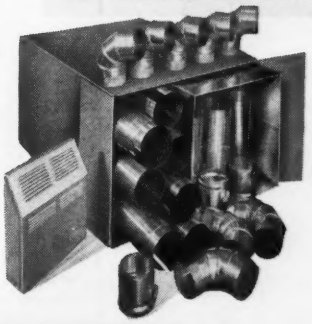


featuring a new type ***DIFFUSER***

G/A's Temp-RD Air Package has a draft-eliminating diffuser that removes the cooler air at floor level, blends it with warm air from the furnace and redirects it within the registers. This diffuser gives an even heat return throughout the house.



A COMPLETE PACKAGE...



Including:

New G/A Air Diffusers, furnace bonnet assembly, with quick knockout holes for joining duct lines. 4" diameter pipes in 24" lengths and 90° adjustable elbows to reach almost any angle. A complete return air kit, including cold air return grille, 9" round pipe and furnace bonnet assembly.

GENERAL Automatic

Send for illustrated folder giving complete details on G/A's profit-packed Temp-RD Air Package.

THERE'S A G/A UNIT FOR EVERY TYPE AND SIZE INSTALLATION

GENERAL AUTOMATIC PRODUCTS CORP., 2300 SINCLAIR LANE, BALTIMORE 13, MD.

fueloil & oilheat

Ceiling Prices for oilburner Installations

THE INSTALLATION of oilheating equipment is covered by Ceiling Price Regulation 93, issued by the Office of Price Stabilization and effective November 20. Under a ruling, similar to one made by OPA during World War II, OPS has decided that oilburner installations come under the heading of contracting business. CPR 92, "Construction and related services and sales of installed materials," sets forth pricing methods which enable sellers of construction services to apply to current costs of labor and materials, nine-tenths of the highest percentage of markup for profit used during the base period, July 1, 1949 through June 24, 1950, and the highest percentage of base period markup for overhead, without reduction. The formula was devised to allow the contractor the same approximate dollars and cents profit as was realized during the base period.

The Regulation covers four types of contracts: lump sum contracts; cost plus fixed percentage fee contracts; cost plus fixed dollar fee contracts and cost plus with guaranteed limit. Since the great majority of oilheating installations are sold on a lump sum contract basis, there are reproduced below the steps to follow in arriving at ceiling prices for this type of work:

"(a) A lump-sum contract is a sale on which your selling price includes all costs, overhead and a profit. To find your ceiling price for a lump sum job you must:

"(1) Find the highest base period percentage markup for overhead and profit which you had in effect on a comparable job.

"(2) Separate this percentage markup into two parts, one representing profit and one your overhead expenses. (For example, if your base period markup was 20 per cent, 15 per cent may have represented your overhead expenses and 5 per cent your profit.

"(3) Diminish your profit markup by 10 per cent. (If your profit markup was 5 per cent, you must now use 4.5 per cent.)

"(4) Add your overhead markup to your diminished profit markup. This is your revised total markup.

"(5) Multiply the total estimated current cost of the elements of the same cost base used in your comparable base period contract by your revised total markup. This is your estimated overhead expenses plus your profit.

"(6) Add this amount to your estimate of the total current cost (exclusive of overhead expenses) of the work to be done under this contract. This is your ceiling price.

"(b) The escalator clause. If your contract provides, you may charge for cost increases which occur after you submit your bid, if the increased costs are no greater than those allowed by this and other applicable OPS and WSB regulations at the time of billing."

These provisions and those relating to the other types of contracts are detailed in "OPS Trade Guide" for Ceiling Price Regulation 93, available from The Office of Price Stabilization. The Guide also outlines the records that must be kept and the basic forms that must be filed with local OPS of-

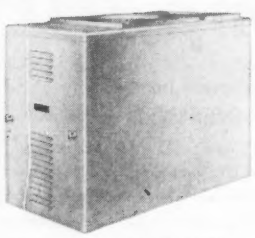
for greater quality . . . greater sales

ECONOMY®
WARM AIR FURNACES

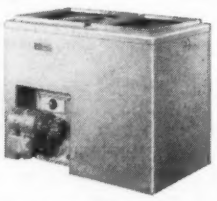
FOR OIL

Oil Economy furnaces are easily convertible to gas at any time.

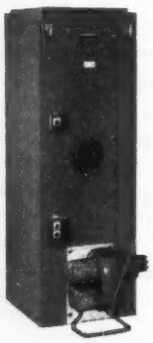
OIL ECONOMY HI-BOY



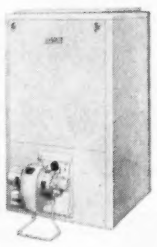
OIL ECONOMY



"65" CONSOLE

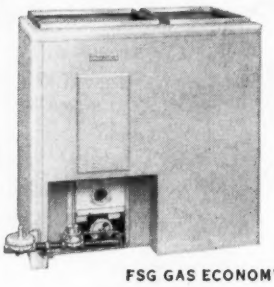


COUNTERFLO



GRAVITY

FOR GAS



FSG GAS ECONOMY

SG GAS ECONOMY

International Economy Warm Air Furnaces meet all of TODAY'S heating requirements. For complete satisfaction and *sure* profits, install Economy furnaces . . . either forced air or gravity—cast iron or steel . . . for oil, gas and coal firing in a full range of models and sizes.

SEE YOUR JOBBER TODAY

OVER 100 YEARS OF HEATING EXPERIENCE

INTERNATIONAL HEATER COMPANY
UTICA 2, NEW YORK
(Western Office and Warehouse, 1933 Wentworth Ave., Chicago 16, Ill.)

SKUTTLE HUMIDIFIERS offer you and your customers scientifically engineered humidity to meet the needs of any warm air heated home.

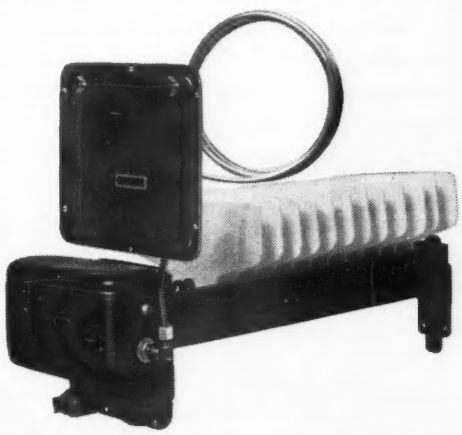
First, they are designed to do an adequate job, provide humidity 24 hours a day. Second, they are designed to stand up under all water conditions. Pans and float chambers are vitreous enameled steel. Floats are blown glass—corrosion resisting materials are used throughout. Third, they are designed for easy installation. You can install one in 40 minutes or less.

You can depend on Skuttle Humidifiers to please your customers, to sell easily and in profitable volume.

SKUTTLE SERIES 600 HUMIDIFIER (Patents Pending)

Self-flushing, self-cleaning, self-draining, Skuttle Series 600 holds 5 to 20 evaporating plates—adequate for oil or gas fired warm air furnaces or winter air conditioning plants up to 180,000 BTU.

Adjustable bracket permits easy installation in straight or sloped plenum. Flush lever provides automatic cleaning.

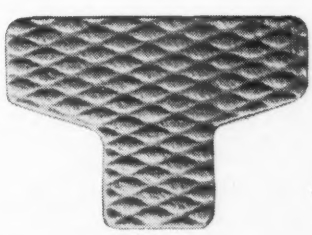


SKUTTLE SERIES 300 HUMIDIFIER

Holds up to 40 evaporating plates. For large homes.

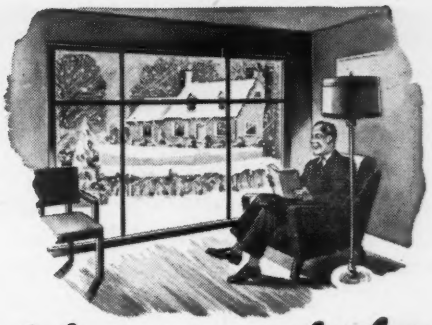
SKUTTLE SERIES 500 HUMIDIFIER

Pan type, without plates. For coal fired warm air furnaces.



VAPOGLAS EVAPORATING PLATES (Patented)

The best plates obtainable. Made of glass fiber, compressed after heating. Absorbs 70% more water, pound for pound than any other type plate.



Humidity... Scientifically Engineered

For Better Selling

Skuttle Humidifiers are extensively advertised in daily papers in season.

In addition we offer you:

Consumer Folder "The Story Of Humidity"—Complete—attractive—powerful convincers for your prospects.

Counter or Window Display—Hard hitting—printed in the wonderful new "Day-glo" color.

Sales Manual—with complete sales program.

Attractive Decal for Your Door or Window.

Vapoglas Plate Dispenser and a Colorful, Attractive Counter Display.

See your jobber about Skuttle Humidifiers. Selling them is profitable, satisfactory.

Skuttle MANUFACTURING COMPANY

4099 BEAUFAIT AVE. • DETROIT 7, MICH.

fices within 60 days after the date on which prices for construction services sold on a time and materials basis, hourly rate basis or installed sale basis are first established. If it becomes necessary sometime in the future to increase ceiling prices, supplemental forms then must be filed with the local offices.

CPR 93 does not apply to service on oilheating equipment rendered on a contract for a stipulated period of time. This is covered by CPR 34.

❖

University reports on lower thermostat Settings

A BULLETIN, recently issued by the Engineering Experiment Station of the University of Illinois, reports on tests conducted on "Radiant Baseboard Heating and Effects of Reduced Thermostat Settings and Open Bedroom Windows at Night." A significant conclusion declares that room air temperature variations are affected by length of operating cycles of the burner and circulator and "from the standpoint of uniform room air temperature, short and frequent cycles of operation are preferable to longer, less frequent cycles."

Other findings reported that hot water heating systems used in the tests showed quick response to changes in load and maintained constant room air temperatures even during rapid outdoor temperature changes, and found that radiant baseboards are effective in maintaining comfortable floor slab temperatures in basementless houses, since long, low units of this type cover a large percentage of the length of exposed walls.

With bedroom windows open at night, the tests discovered no difference in fuel consumption whether bedroom radiators were turned off at night or not and, further, after the warm-up period, room air temperature differentials during the day were not affected by turning off bedroom radiators, opening bedroom windows or reducing thermostat settings at night. Also, operating with reduced thermostat setting and open bedroom windows at night, the morning warm-up period was much longer when bedroom radiators were turned off at night.

According to the tests reported in the bulletin, a reduced thermostat setting at night, with windows closed, "resulted in a daily fuel savings of approximately 5%." The tests also were reported as finding that daily fuel consumption with bedroom windows open and thermostat setting reduced at night was the same as that obtained when windows were closed and the entire house was maintained at 72 degrees all the time.

❖

Interest mounts for "Best Ever" OHI show

ONLY 15 EXHIBIT BOOTHS are left for the 29th Anniversary Oil-Heat Exposition to be held in Exposition Hall, Commercial Museum, Phila., Pa., April 14 to 18, R. H. Becker, managing director of Oil-Heat announces. The physical layout of Commercial Museum has kept even these unreserved spaces from being "out-of-the-way" locations, several, in fact, are in prime positions—"island" or centrally located booths on main traffic stream

The Bethlehem Crusade-a-therm

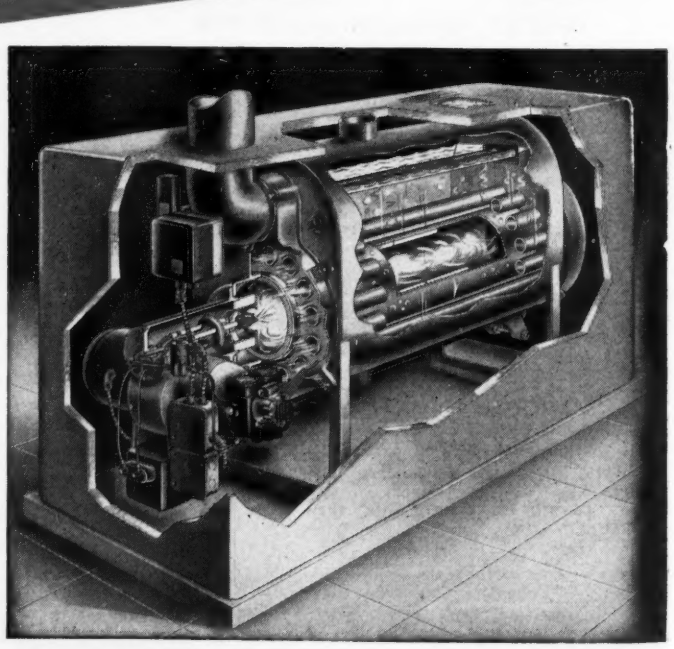
MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

THE BIGGEST *automatic* HEATING VALUE IN AMERICA!

Those who have compared and installed this automatic heating plant, say it is the most economical and efficient on the market.

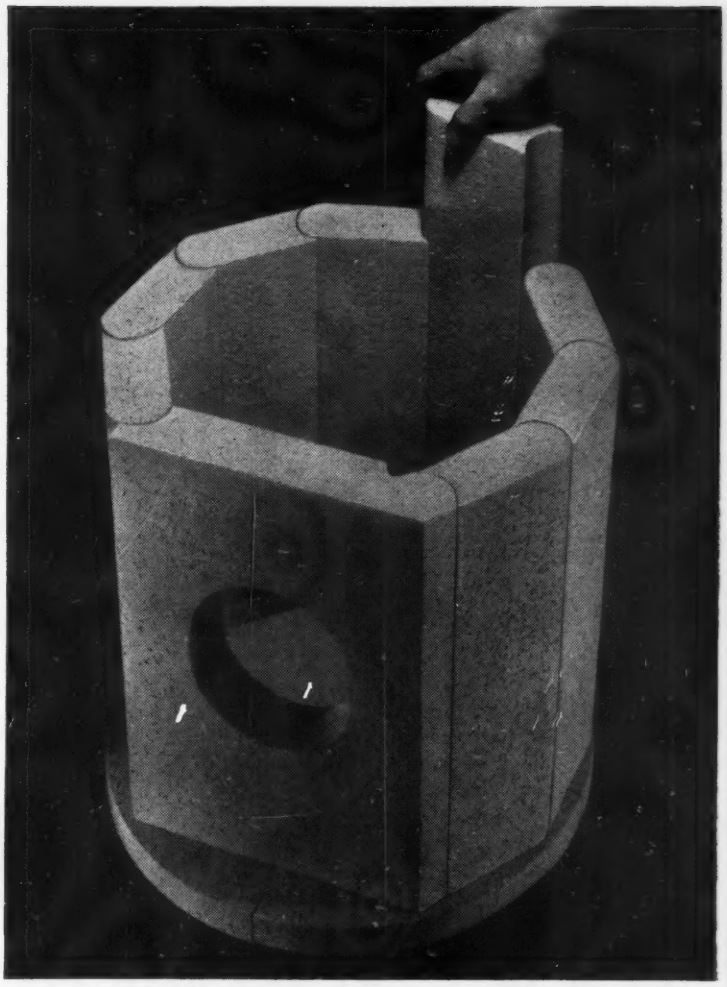
Designed, tested and manufactured to meet all the requirements of the average size home, its superiority over ordinary units is unquestioned. The C-liminator that completely eliminates smoke on start, is standard equipment on the Crusade-a-therm. It, and an electrical solenoid valve which cancels smoky shut-down and after-drip, guarantee trouble-free performance. There's never a trace of the old bugaboo of smoke, soot, and odor.

Owners everywhere report outstanding performance records under the most severe conditions.



BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.



Improve furnace performance with LOTHERM

COMBUSTION CHAMBER for oil-fired domestic furnaces

- FASTER HEATING
- REDUCES NOISE, SMOKE, ODOR, SOOT
- REDUCES FUEL COSTS
- EXCELLENT DURABILITY
- EASY TO INSTALL
- FITS ANY FURNACE

Visit our booth at the
OIL HEAT EXPOSITION • Philadelphia, April 14-18

LOTHERM is an improved type of refractory combustion chamber that heats up fast and holds its heat—thus providing the economy, quiet operation and clean burning characteristics so important for domestic furnace installations. It is readily adapted to conversion burners and fits any furnace. LOTHERM is porous and light in weight, yet strong and durable. Because it promotes clean burning and complete combustion, LOTHERM responds quickly to thermostatic control.

Write for full details, and name of nearest representative.

HARBISON-WALKER REFRACTORIES COMPANY
AND SUBSIDIARIES
WORLD'S LARGEST PRODUCER OF REFRACTORIES
General Offices . . . . . Pittsburgh 22, Pennsylvania

channels to get maximum attention.

"It is expected that these few spaces will be fully sold this month," Mr. Becker said, "making this the biggest and best Oil-Heat Industry show ever." He added that once these last few spaces are reserved, no more can be made available.

The major oil companies are showing increased interest in the rapidly expanding oilheating market, illustrated by the fact that Shell, Gulf and Sinclair already have reserved sizable exhibit spaces in the Show and the Oil Industry Information Committee will occupy a segment of the centrally located "Theme Center."

"Plans for programming of major events to be conducted in conjunction with the Oil-Heat Exposition and OHI Convention," L. A. Casler, Eureka Williams Corp., chairman of OHI Program Committee said, "are now being developed."

The tentative program for the 29th Annual Convention follows:

Mon., Apr. 14—Retiring Board of Directors meeting.

Tues., Apr. 15—"Engineering Day" with annual meeting of OHI in the morning and engineering session in the afternoon.

Wed., Apr. 16—"Industry Day." Open session to all industry members in the morning. Accessory Division Luncheon at noon.

Thurs., Apr. 17—"Dealer Day." Open to all dealers, distributors and manufacturers in the oilheating industry, with "forum-type" program covering three subjects of primary importance to be assigned to "panels" composed of recognized authorities in the industry. OHI banquet at 8:00 p.m.

Are you having trouble getting . . .

INSULATING BRICK

for your

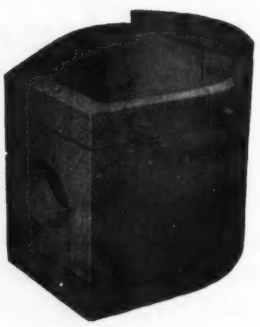
Large Installations

If so.... WE CAN HELP YOU!

LITE·CAST

COMBUSTION CHAMBERS

Quality
Efficiency
Performance



"Truly
Time
Tested"

MADE IN SIZES UP TO 12 GALLONS

Of course, they are made of the same "QUICK HEAT-UP" material that has served the industry for the past 18 years

manufactured by

MONOGRAM PRODUCTS CO.

731 N. 35th Street • Philadelphia 4, Pa.

❖

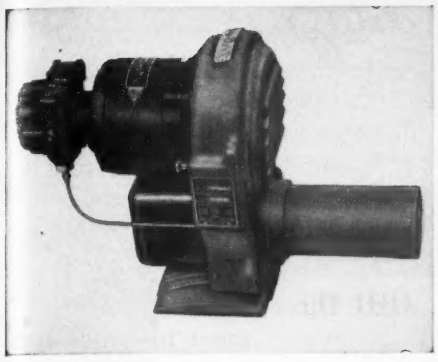
Magazine Survey checks Heating and Fuel used

A SURVEY, made a little more than a year ago, developed data about subscribers and newsstand buyers of *Better Homes & Gardens*, including information about home appliances they own. Questionnaires were mailed to a specially selected list of both types of readers.

Combined returns from both sections indicated that a total of 48% of the readers who occupy single-family homes use warm air heat, probably indicating a high percentage of answers from the Midwestern states, where furnace heat is more popular. Forced warm air heating was used in 27% of the homes; gravity systems were installed in 21%.

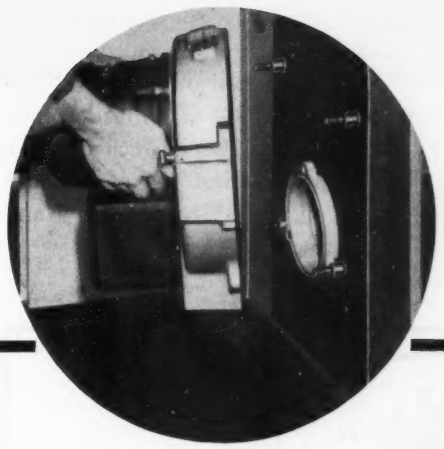
Steam or hot water heat was reported by 21%, heating stoves by 10%, floor furnaces by 11%, cabinet-type space heater by 5%, radiant heat by 1% and other types by 6%. In answer to the question, "Where is your heating plant located?" 69% checked basement locations and 5% first floor utility rooms. "In the floor" installations were indicated in 11% of the homes and 17% checked the classification "Other."

To determine the age of heating systems, a question was included to find out in what year they were installed. Fifty-seven per cent reported their heating systems had been installed during the period from 1945 through the first half of 1950 and 37% said they had put in their heating between the years 1930 and 1944. The remain-



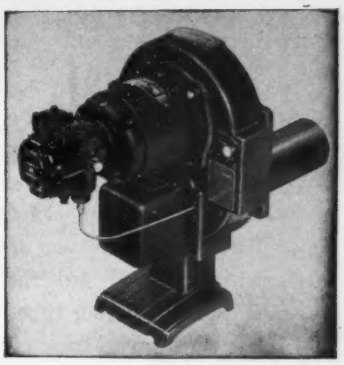
SERIES OC

Companion to the Plate Mounted Series OCU — but adapted for Conversion Applications



SERIES OCU

Plate Mounted Burners for "Manufacturers' Unit" Applications



SERIES ON

Similar to the OC and OCU except with a greater capacity

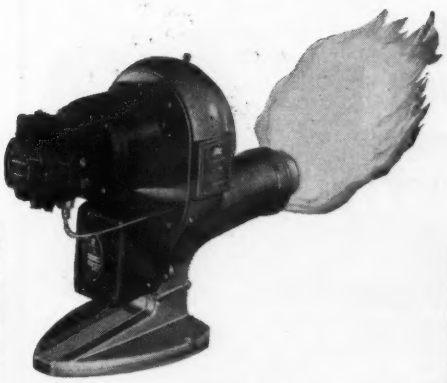
Beckett COMMODORE Oil Burners

The ever-increasing success of Beckett engineered burners reflects the goal for which every Craftsman strives . . . PERFECTION.

Beckett burners are designed . . . for Boiler or Furnace, Unit Applications . . . or Conversion Applications *in any type* heating system . . . oil rates from .7 to 25 gallons per hour.

R. W. BECKETT CORPORATION

ELYRIA, OHIO



SERIES OB

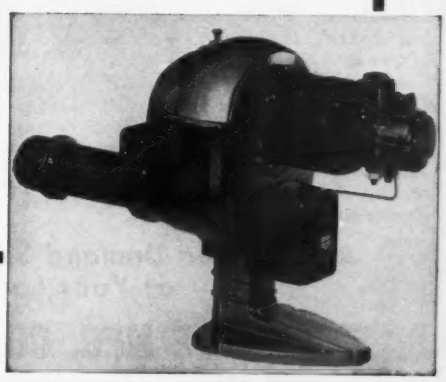
For Conversion Application

SERIES M

For Conversion Application

SERIES L

For Conversion Application



ing 6% had heating systems installed prior to 1930.

Seven out of ten of the readers were found to use either gas or oil for heating, 35% having oilfired systems and 38% gas, again probably influenced by a heavy return from Midwestern states. Handfired coal accounted for 20% of the fuel used, stokerfired coal, 6% and wood and other types totaled 2% each. Those who have either gas or oil systems reported that 29% of the units were converted systems and 71% were units designed specifically for the fuel they were using. Thermostatically-controlled heating was reported by 68% of the readers; 26% did not have thermostats and 6% did not answer.

Data on heating systems and fuel used covered only those readers who occupy single-family homes.

Another section of the survey determined that 74% of all readers own water heaters, 82% of which are automatic types. Gas fires 58% of the water heaters, oil, 12%; electricity, 24% and coal or wood, 6%.

PLEASE, BE MY
"SILENT-FLAME"
SILENT-FLAME
Silent-Flame
TOMORROW'S OIL BURNER TODAY!
with the new "DUAL"
TELESCOPIC TURBULATION
as standard equipment. No extra charge. [NOT a combustion head]
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Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

OHI Directors to meet in Cincinnati

THE QUARTERLY board of directors meeting of the Oil-Heat Institute of America, Inc., New York 16, N. Y., will take place at the Netherland Plaza Hotel, Cincinnati, on January 25. On January 24 the Commercial-Industrial Committee, Executive Committee and other committees called by their chairmen will meet.

All members of the Institute, whether they are directors or not, are invited to attend and participate in the discussions, plans and programs.

Levin succeeds Albert as Head of Maryland OHA

AT THE DECEMBER 18 meeting of the Oil Heat Association of Maryland, Inc., Baltimore 1, Md., Hollis Albert completed his term as president of the group and turned over his duties to Jack Levin, who will serve throughout 1952.

Principal speaker at the meeting was Fred S. Burroughs, national secretary, Distribution Division, Oil-Heat Institute of America, Inc., who relayed current information on industry affairs.

Smith re-elected Chairman of I-B-R

AT THE OCTOBER annual meeting of the Institute of Boiler and Radiator Manufacturers, New York, N. Y., held at Absecon, N. J., Stanley K. Smith, president of H. B. Smith Co., was re-elected chairman; Wesley J. Peoples, president of U. S. Radiator Corp., was re-designated vice-president and R. E. Ferry was again named general manager and treasurer.

In his report to the meeting, Mr. Ferry revealed that members and associate members have invested a total of more than a million dollars since

Fan and Limit Controls

The ORIGINAL Hydraulic-Action Control! Available in single units or combination types providing two independently operating controls in a single compact case. Two of many in the comprehensive line of White-Rodgers automatic controls for residential heating and air conditioning. *Send for complete heating control catalog today.*

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1938 to further the hot water and steam heating industry through I-B-R. The money has been divided roughly: 17% for research; 30% for publicity and promotion; almost 6% for educational work with the trade and wholesalers and 47% for operating the Institute. Major achievements cited included development of a boiler rating code, the I-B-R research program, preparation and publication of six Installation Guides, consumer advertising, baseboard and fin-tube ratings, I-B-R short courses.

Arthur L. Wales, instructor of the School of Modern Heating, also reported that about 3,400 students have attended 66 of the schools since April 1950 and that there now are I-B-R trained students in 902 cities and towns.

Professor Warren S. Harris, Dept. of Mechanical Engineering, College of Engineering, University of Illinois, told the 100 representatives who attended the meeting that studies of "effective heat" for different types of heating units under actual use conditions and a study of panel heating systems were two major studies to be made during this heating season under the research program sponsored by the Institute at the University. He outlined some of the important points covered in past reports and explained the results of a chimney study made in the I-B-R Research Home. The purpose of the study was to determine the amount of heat obtained by the house from the inside masonry chimney, and it was found that heat so recovered accounted for from 14 to 17 per cent of the heat loss of the house during average winter weather—34° F. outdoor temperature difference. The study concluded it was desirable to compensate for the gain of heat from a chimney in estimating radiation requirements for rooms.

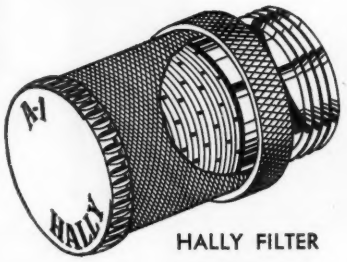
Brief talks were made by Paul Homes, assistant director in charge of plumbing and heating branches, Building Materials Div., NPA and Francis E. McArdle, chief, heating branch, Building Materials Div., NPA.

A symposium on current business conditions in the industry also was held.

Nozzle TIPS

How To Prevent "No-Heat" Calls Caused by Clogged Nozzles . . .

Install a DELAVAN nozzle—with HALLY FILTER ATTACHED — when replacing worn or badly clogged oil burner nozzles. The HALLY FILTER stops foreign particles from ever reaching the nozzle slots, because its openings are only one-fourth to one-third the size of those in ordinary wire screen strainers. HALLY FILTERS are particularly necessary on nozzles of less than one gallon per hour capacity.

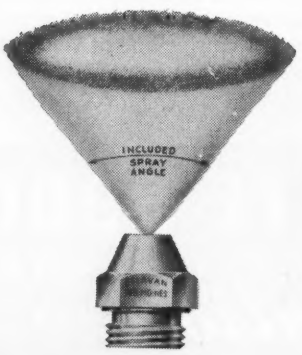


HALLY FILTER

"IT PAYS TO USE DELAVAN NOZZLES"

Every DELAVAN nozzle is spray tested under accurately controlled oil, pressure, temperature, viscosity conditions. Every DELAVAN nozzle guaranteed to be accurate in rate of flow, spray quality and spray angle.

DELAVAN Type A (hollow cone) NOZZLE



ORDER DELAVAN NOZZLES with HALLY FILTERS ATTACHED

WRITE FOR CATALOG 147D

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MEMBER OHI

Indiana Sheet Metal Committeemen meet

THIRTY-ONE COMMITTEEMEN attended the annual convention committee rally of the Indiana State Association on November 28 in the Hotel Severin, Indianapolis, Ind., to outline preparatory work for the annual meeting of the Sheet Metal and Warm Air Heating Contractors' Association of Indiana, Inc., Terre Haute, Ind.

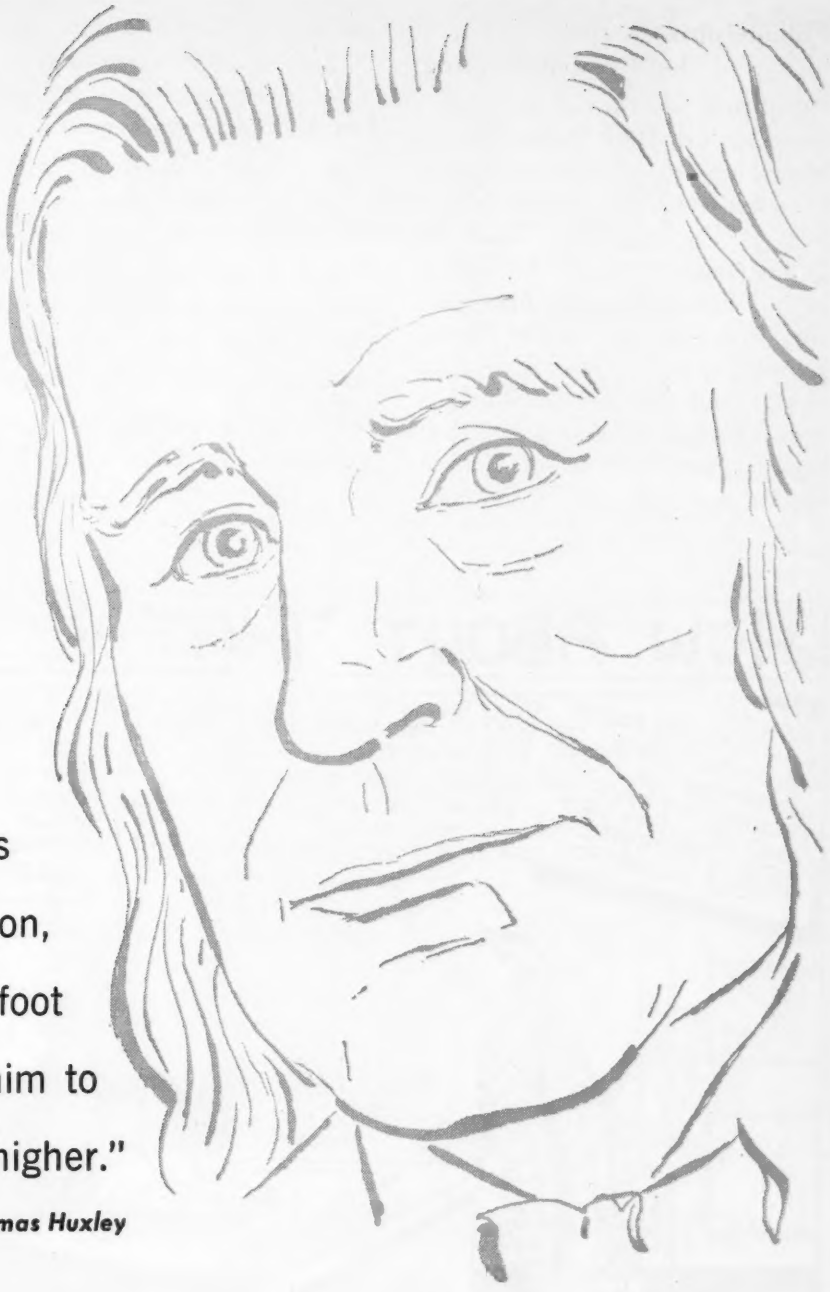
Frank E. Stewart and Don McCloskey are chairman and co-chairman of the convention and have designated the following to head the indicated committees: Program, Bud Carr; Banquet, Harold Boyd; Entertainment, William E. Garber, Jr.; Publicity, Marvin Brezette; Hotel, Homer Selch; Luncheon, Morris Ellsworth; Door Prizes, A. L. Nemec; Question Box, Charles Buck; Reception, H. W. Meggs and Ladies, E. E. Meeks.

The committeemen have scheduled two other meetings before the convention.

...the rung

of a

ladder...



"The rung of a ladder was never meant to rest upon, but only to hold a man's foot long enough to enable him to put the other somewhat higher."

Thomas Huxley

the standard of the industry...

ABC Oil Burner

ABC OIL BURNERS

AUTOMATIC BURNER CORPORATION

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fueloil & oilheat

Philadelphia Dealers hold initial Meeting

THE INITIAL MEETING of the newly-organized Oil Heat Association of Metropolitan Philadelphia was held on December 11 at the Adelphia Hotel, with 213 in attendance. Lionel L. Jacobs, president, conducted the meeting and introduced guests and speakers. These included Hollis Albert, president of the Oil Heat Association of Maryland, Inc., and national chairman, Distribution Division, Oil-Heat Institute of America and A. Graham Shields, managing director, Oil Heat Institute of Greater Washington, D. C. Both described some of the activities that their associations are undertaking in their respective markets.

Also, Fred S. Burroughs, national secretary of OHI's Distribution Division and Lloyd W. Foutz, managing director of the new group, delivered short talks. Foutz is a full-time managing director and is located at the Association's office at 5035 Sason St.

Principal speaker during the meeting was Robert Gray, editor, FUEL-OIL & OIL HEAT.

HOW ABOUT THAT ?
ADVISE WHIFFLE... THE PARTS MANUFACTURER... TO ADVERTISE IN YOUR OILHEATING MAGAZINE AND HE'LL SAY HE'S NOT INTERESTED IN YOUR INDUSTRY!
BUT, SIR... OUR PUBLICATION IS THE FOREMOST... THE FINEST IN THE FIELD!! REACHES EVERYBODY! AN AD IN OUR MAGAZINE WILL BOOST YOUR BUSINESS CONSIDERABLY!
BUT I HAVE NO INTEREST IN THE OIL-HEATING INDUSTRY! NONE WHATEVER! SORRY!
WHIFFLE MFG. CO.
J. WHIFFLE, PRES.
THEN WHAT DOES ALL THIS MEAN ??
HERE'S ANOTHER LOAD OF PUBLICITY RELEASES FROM THE WHIFFLE CO.!! SAYS HERE ITS URGENT... OF VITAL IMPORTANCE TO THE OILHEATING INDUSTRY!
HE'S THE GUY WHO WONT ADVERTISE IN OUR MAGAZINE BECAUSE OIL-HEATING HAS NO INTEREST FOR HIM!
WHAT A PECULIAR WAY OF SHOWING DISINTEREST.
WAIT! HERE'S MORE PRESS ITEMS FROM THE WHIFFLE OUTFIT! IT SAYS... STOP THE PRESSES! IMPORTANT!!! THERE'S ANOTHER BIG LOAD OUTSIDE!
WHY SHOULD HE ADVERTISE IF HE CAN GET HIS PITCH IN FREE ?
PRESS RELEASES WHIFFLE MFG. CO.
EDITOR
SEND IN YOUR IDEA FOR ILLUSTRATION! YOU'LL GET CREDIT AND THE DRAWING!

The Association has prepared a brochure, which sets forth the purposes of the group and the reasons it felt made it necessary to set up a separate group of organizations concerned exclusively with the sale of oilheating equipment and fueloil. Primary purpose of the association is to combat growing gas competition in a positive way by promoting the sale of fueloil and oilburning equipment, this to be done through "A carefully planned and well-executed public relations campaign . . . and a sound informational and educational program among our members."

Corollary objectives have the association committed to a program to create fair codes of fair performance for the development of higher business standards, to serve as a clearing house for research and statistics and credit information on customers and to devise and publish sales management and training outlines, aimed at sounder promotional themes and merchandising methods.

Ralph Becker scores Industry Outlook before MOHA Meeting

RALPH H. L. BECKER, managing director of the Oil Heat Institute of America, spoke on "Outlook for Oil Heating Industry for 1952" before the monthly meeting of the Massachusetts Oil Heating Association, Boston, Mass., December 18, at the Hampton Court Hotel, Brookline, Mass.

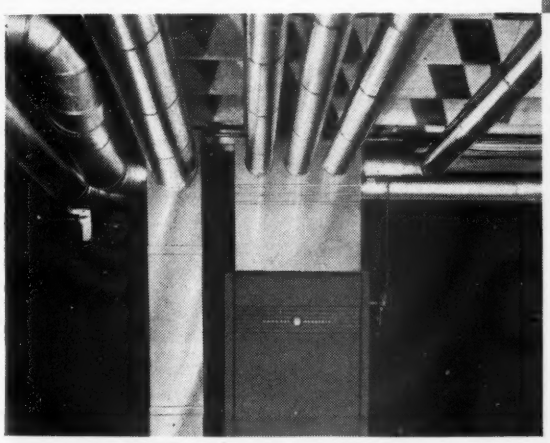
Mr. Becker analyzed what the oil-heating industry could expect in the immediate future from Government controls, competition from gas, availability of fuel supplies, etc.

Warm Air Group holds 38th annual Convention

THE 38TH ANNUAL CONVENTION of the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio was held December 5 and 6 at the Hotel Cleveland. Morning and afternoon sessions took place both days, the first opening with an address by C. S. Franke, American Furnace Co. and retiring president of the Association. This was followed by a question and answer panel on Government controls, with T. I. Byrd, Lau

G-E AIR-WALL HEATING IS A COMPLETE SYSTEM. Illustration with details such as floor joists purposely omitted, shows a G-E Air-Wall Heating System.

1. G-E oil warm-air furnace heats, filters, humidifies, circulates air.
2. Plenum chamber with knock-out holes permits easy and fast installation of 4" round ducts.
3. Adjustable dampers for rapid balancing of system.
4. Standard 4" ducts and fittings.
5. Easily adjusted elbows.
6. Attractive, inconspicuous Air-Wall registers blanket outer wall with warm air similar to defroster principle in your car.
7. G-E clock thermostat controls furnace with automatic setback at night.
8. Warm air takes a fan-like pattern as it leaves Air-Wall registers...no cold down drafts.
9. Radiant heat from walls which are warmed by upflow of air, banishes sensation of up and down heating.
10. Return-air grilles on inner walls remove room air for filtering, reheating and recirculating.



TYPICAL G-E AIR-WALL INSTALLATION showing small, compact supply and return air ducts. System is also ideal for basementless homes.

Sell a heat distribution system—and you'll sell the furnace

G-E Air-Wall Heating System helps sell furnaces, gives greater comfort because it provides forced warm air PLUS radiant wall heating.

Heating dealers all over the country are finding that the G-E Air-Wall System does more than provide pre-engineered installations—*it helps sell furnaces.* It is an easy-to-install perimeter system, using the G-E Air-Wall Registers and standard 4" ducts and fittings.

For use in new homes or as a replacement system in old homes, it gives home-owners freedom of furniture placement, freedom from dust, streaking, condensation and carpet cutting.

The special Air-Wall Registers are placed on the outer walls where the heat loss takes place. Warm air is introduced in a fan-like pattern upward warming these walls so they radiate heat. This eliminates the sensation of cold down-drafts and keeps floors comfortable. (Picture windows and drapes are no problem.)

DEALERS! Sell the system the whole industry is talking about—the perimeter system pioneered by General Electric.

SEND FOR AIR-WALL QUICK CALCULATOR AND APPLICATION MANUAL

I am enclosing $..... (check or money order only) for G-E Air-Wall Heating.
☐ Quick-Calculators 50¢
☐ Application Manual 50¢

General Electric Co.—Air Conditioning Division, Dept. FO, Bloomfield, N. J.

NAME.....

ADDRESS.....

CITY.....ZONE.....STATE.....

GENERAL ELECTRIC

fueloil & oilheat

Blower Co. and chairman of the Task Group, Warm Air Heating Industry Emergency Committee, acting as moderator. Panel members included W. H. Acheson, chief, Building Materials Section, OPS and M. N. Johnston, Plumbing & Heating Section, Building Materials Division, NPA. W. L. McGrath, Williamson Heater Co., also addressed the session, in a talk describing the work of the International Labor Organization.

The December 5 afternoon session featured an address by J. C. Olson, Booz, Allen & Hamilton on "Sales and Selling" and a discussion of "The Farm Market" by Victor Hawkins of Capper Publications. Also, the Association's publicity and merchandising and market research programs were presented by M. I. Levy, Viking Air Conditioning Corp. and W. C. Davis, General Electric Co., chairman of the respective committees.

Both sessions on December 6 were devoted largely to reports of committee chairmen on the activities concluded in 1951 and plans for 1952.

Officers and Board of Trustees, *National Warm Air Heating and Air Conditioning Association. Clockwise around the table are: M. I. Levy; F. L. Meyer; E. P. Hayes; G. W. Denges; H. F. Curtis; L. J. Mueller; R. M. Cook; George Boeddener, managing director; C. S. Franke, retiring president and ex-officio member of the Board; C. B. Phillips; W. D. Redrup; L. S. Redford; L. C. Harvey; H. F. Randolph; H. G. Cross; J. W. Norris. Not shown are T. I. Byrd and Sheldon Coleman.*

Election of officers for the year 1952 resulted in the naming of W. D. Redrup, Majestic Co., as president; C. B. Phillips, Surface Combustion Corp., 1st vice-president; G. W. Denges, Williamson Heater Co., 2nd vice-president and George Boeddener, secretary-treasurer.

Committee chairmen were named as follows: Dr. W. C. Davis, Market Research Committee; F. L. Meyer, Research Advisory Committee; M. I. Levy, Publicity and Merchandising Committee; Dean L. G. Miller, Installation Codes & Technical Education Committee; C. W. Nessell, Field Investigation Committee; C. L. Sapp, Legislative Committee and T. I. Byrd, Task Group.

*LOWEST PRICES EVER on these Complete**

FUEL OIL TRUCKS!

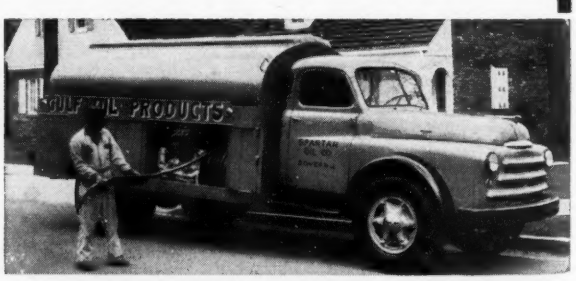
IMMEDIATE DELIVERY ANYWHERE in the United States. Trades accepted and terms arranged. Rear installed equipment available on all sizes.

1300 gallon—2 compartment tank; fully skirted, top shrouding. With 2" ticket printer (your choice); 125' 1½" hose and electric reel. 1952 Dodge 2 ton Model HH with 8.25x20 10 ply tires ..... **$4,280.**

1600 gallon—2 compartment tank; equipped as above. Mounted on 1952 Dodge 2½ ton Model K chassis with 900x20 10 ply tires ..... **$4,950.**

2200 gallon—2 compartment tank; equipped with 2" ticket printing meter (your choice); 125' 1½" hose and electric reel. Mounted on 1952 Dodge 3½ ton Model V with 1100x20 12 ply tires ..... **$6,975.**

* *Includes chassis, tank, pumping and metering equipment*



Prices on models of different sizes, available on request. All sales subject to 8% Federal Tax.

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HAWTHORNE N. J.
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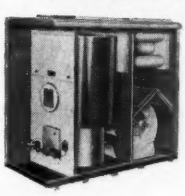
Luxaire® in '52

GREATER SALES ... GREATER PROFITS for YOU!

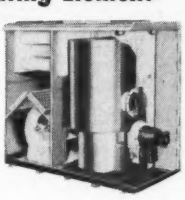
The COMPLETE Line of Heating and Air Conditioning Units for ANY fuel . . . for ANY type of Heating Installation

LUXAIRE BASEMENT AIR CONDITIONING UNITS

With Steel Heating Element



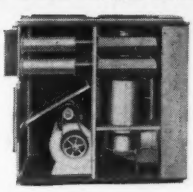
As a GAS Unit
70,000 to 250,000
B.T.U. Input



As an OIL Unit
76,000 to 212,000
B.T.U. at Bonnet

Approved for Either Gas or Oil

With CAST IRON Element



GAS Fired Unit
90,000 to 200,000
B.T.U. Input

for Gas only

BECAUSE—

Most LUXAIRE automatic heating units are designed and approved to burn either GAS or OIL with equal efficiency.

With Luxaire you can be the prosperous furnace dealer that cashes in with greater sales and greater profits because one or more of the many features found exclusively in Luxaire furnaces will obtain business for you that you would lose without this incomparable line.

Save time in your buying with Luxaire. Luxaire has just about every type and size that your prospects can want. Homeowners, builders and architects—whether they want the new Counterflow units for Perimeter or Crawl Space heating—a furnace for Oil now but which can be converted to Gas in the future—gravity furnaces, utility units or air conditioning units—steel or cast iron heating elements—you can satisfy and sell them with Luxaire. And without wasting valuable hours and days searching for the right model, because you find in the Luxaire catalog the exact unit that you need.

If you do not know your nearby Luxaire wholesaler, get acquainted with him now. He carries a stock of these sales producing furnaces in his warehouse, ready to supply you without delay. Send for his name and Luxaire catalogs.

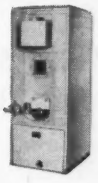
LUXAIRE Counterflow Unit

As an Oil Unit
75,100 to 84,100
B.T.U. at Discharge Outlet

As a Gas Unit
95,000 to 115,000
B.T.U. Input

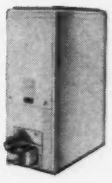
LUXAIRE Utility A.C. Unit

As an Oil Unit
75,100 to 106,000
B.T.U. at Bonnet

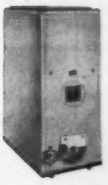


As a Gas Unit
95,000 to 125,000
B.T.U. Input

LUXAIRE Gravity Furnace



As an Oil Unit
71,200 to 100,000
B.T.U. at Bonnet



As a Gas Unit
85,000 to 130,000
B.T.U. Input

Approved for Either Gas or Oil **with equal efficiency**

LUXAIRE Coal-Fired Furnaces

Cast Iron
Gravity Furnace
20" to 28" Firepot

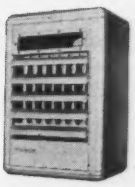
Steel
Gravity Furnace
20" to 34" Drum

Air Conditioning Unit
Steel Element
86,642 to 127,633
B.T.U. at Register

MONCRIEF
Pipeless Furnace
18" to 24" Firepot

The New Luxaire® UNIT HEATER

5 SIZES
60,000 to 240,000
B.T.U.



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HEATING & AIR CONDITIONING UNITS

Fueloil & oilheat

ASHVE announces Plans for its annual Meeting

A SYMPOSIUM on the control of industrial atmospheres and 12 papers in the fields of air cleaning, air distribution, warm air heating, building heat loss and heat gain and physiological research, will be presented at the 58th annual meeting of the American Society of Heating and Ventilating Engineers in St. Louis, Jan. 28-30. The Statler and Jefferson hotels will be headquarters for the gathering which is expected to have an attendance of over 1,000 members.

W. N. Witheridge, ventilation consultant to General Motors Corp., and chairman of the ASHVE Technical Advisory Committee on Industrial Ventilation, will act as moderator of the symposium. Technical sessions will be held in the mornings and afternoons with the exception of Monday, the opening day, when the morning will be given over to committee meetings. Registration will begin on Sunday, Jan. 27, at the Statler. The council will meet on Sunday.

The meeting will be officially launched Monday afternoon at a "Welcome Luncheon" which will be addressed by William "Bill" Veeck, new owner of the St. Louis Browns baseball team. The speaker at the annual banquet on Thursday will be Ralph Carney, of Wichita, Kans., who will talk on "New Strength For America."

The society's F. Paul Anderson Medal, awarded from time to time to ASHVE members for notable scientific achievement or outstanding services in the heating, ventilating and air conditioning field, will be presented at the banquet by President Lauren E. Seeley. Installation of the 1952 officers of the society will be held at the conclusion of the last technical session, Thursday afternoon.

Pacific Conference in Seattle next March

THE NEXT Pacific Coast OHI Conference will be held in Seattle, Wash., March 22 at the Olympic Hotel. A Heating Show, to be held in conjunction with the conference, will be open on Thursday, March 20, through and including Sunday, March 22. The program and speakers will be given at a later date.

ESPA sets Date in May to hold Convention and Trade Exhibit

THE EMPIRE STATE Petroleum Association, New York, N. Y., convention and trade exhibit will be held Monday and Tuesday, May 12 and 13, at the Hotel Roosevelt, New York city. The Board of Directors will meet Sunday night, May 11.

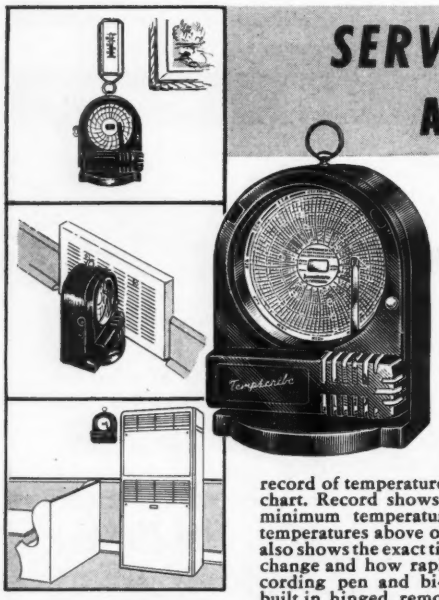
ESPA is an association of jobbers and distributors of petroleum products in New York State.

Oregon Meeting hears Talk on industry Costs

A MEETING was sponsored by the Oregon Heating Industries, Portland 4, Ore., on November 29 at Berg's Chalet. The program featured two speakers, Henry G. Becker, who presented timely information on industry costs and J. C. Long, whose talk was delivered in a lighter vein.

(*Please turn to page 156*)

SERVICE Instruments for Measuring AIR TEMPERATURE and AIR VELOCITY



TEMPSCRIBE
Recording Thermometer

Available in 10 different ranges to cover −30°F to +160°F temperatures, and with spring-operated chart drives for any of the following chart rotations: 8 hours, 24 hours or 7 days.

This entirely self-contained, compact and reliable temperature recorder automatically writes a continuous record of temperature changes on a replaceable chart. Record shows at a glance maximum and minimum temperatures and the duration of temperatures above or below any given point; also shows the exact time of every temperature change and how rapidly it takes place. Recording pen and bi-metallic element are built in hinged, removable door which is also front of instrument. Thus, by merely changing doors it is easy to interchange temperature ranges or to convert to the Operation-Time Recorder described below. Instrument is 8" tall, 5½" wide and 4½" deep. Charts are 4½ inches in diameter.

● **OPERATION-TIME RECORDER**

This instrument has a door unit which is identical to the door of the Recording Thermometer shown above. It makes record of number, frequency and duration of electrical operations such as starting and stopping of motors, heaters, etc. Pen is moved by the energizing of an electro-magnet when contact is closed. Available for either parallel or series connection.

Ask your Jobber or Write for Bulletin 720

FLORITE
Air Velocity Meter

Available in two styles:
One with a scale of 0-1000 ft./min., and the other with a double scale of 0-3000 ft./min. and 0-35 miles per hour.

In principle, this unique instrument operates as an anemometer but provides instantaneous, direct readings of air velocity without timing, calculations or reference to charts. Readings are obtained by holding the instrument in the air stream so that air blows against its circular face, causing rotation of a multi-blade rotor mounted in instrument housing. The circular scale surrounding the rotor instantly turns to correct air velocity reading under an index pointer on scale window. This direct-reading anemometer is particularly useful for measuring air current velocities of air conditioning systems, grille velocities and air deliveries from registers and grilles; for balancing forced air heating systems, and for checking air distribution of all kinds of ventilating systems. Furnished with detachable handle (as illustrated), and leather case.

Ask your Jobber or Write for Leaflet 760

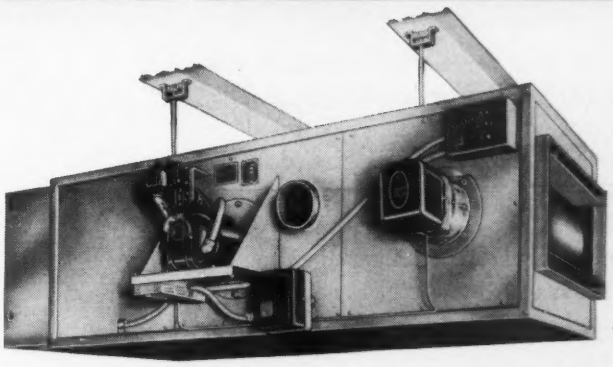
BACHARACH Industrial Instrument Co. 7000 BENNETT STREET · PITTSBURGH 8, PA.

30 Feet of 5" Stack and No Draft Troubles!

Here's Why

The Master Kraft VCF Warm Air Conditioner pictured here needs no chimney draft, merely an *exhaust pipe* to conduct the combustion gases out-of-doors. Why — because a rugged heavy duty fan is *built into* the unit — right inside the smoke pipe collar — to *push* the products of combustion up the stack . . . like the exhaust pipe on a Diesel engine! The Master Kraft VCF Warm Air Conditioner creates its own draft with this fan thereby having no need for natural draft.

Since this unit will actually operate wherever you want to stand it, or suspend it, or lay it down — with merely a stack, long or short, run out-of-doors and



above the roof line (subject to your local building regulations, of course) it solves many a heating problem.

Above is a typical VCF installation where the furnace is installed a *long way* from the chimney. How far would you get with an ordinary, natural draft furnace, using 30 feet of 5" stack to reach the chimney?

SELL this unit for heating homes, stores, garages, warehouses, factories, any type of building, regardless of the draft of the chimney. Mail the coupon for details.

Write or wire us for information — today.

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Master Kraft
AUTOMATIC HEAT

Available in two sizes:
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A PIONEER IN AUTOMATIC HEATING

HARVEY-WHIPPLE, INC.
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COMMERCIAL & INDUSTRIAL oilburning

Design of the industrial Installation

Part VI—Selection of burner and accessory Equipment

by
Kalman Steiner*

TO DATE, this series has discussed: surveying the job to determine load; computing combustion volume; designing the boiler setting and firebox. This article will consider remaining aspects of the industrial burner installation: selection of burner, preheaters, control system, draft control, tank and pipe sizes.

Burner Size and Style

If possible, allow at least 25 per cent extra capacity in burner size. This extra percentage should be based on the maximum load to be carried. Earlier articles have pointed out that many boilers can be and are developed to outputs exceeding nominal rating. If a steel firetube boiler has an SBI mechanical-fired rating of 8500 sq. ft. steam radiation, and is to be developed to 125 per cent of rating, or 10,625 sq. ft., the maximum firing rate will be about 27 gph. Select a burner having a maximum capacity of 34 gph.

The extra capacity helps the burner to meet momentary surges of load at peak conditions that may even exceed the maximum design load, and also allows for slight reduction in fan output that might occur over a period of time between burner cleanings, because of deposit of oil, lint, dust on the fan and in the burner air passages. Finally, where local conditions prevent designing a firebox with generous dimensions, an oversize burner, because of the extra supply of primary air, helps to burn the required amount of oil with a smaller flame.

Generally speaking, a job involving but one or two burners will best be served by integral pump burners, unless the tank must be located at a great distance from the boiler room. With a greater number of burners, especially on preheated fuel, there might be some economies in original equipment and advantages in operation by using remote pump or pumps. An integral pump is one mounted on the burner, driven, through suitable speed reduction, by the same motor that drives the burner fan and atomizer. A remote pump has its own motor drive and may be located at any point, irrespective of burner and boiler location. In a subsequent article discussing oil flow and flow control, more details will be brought out.

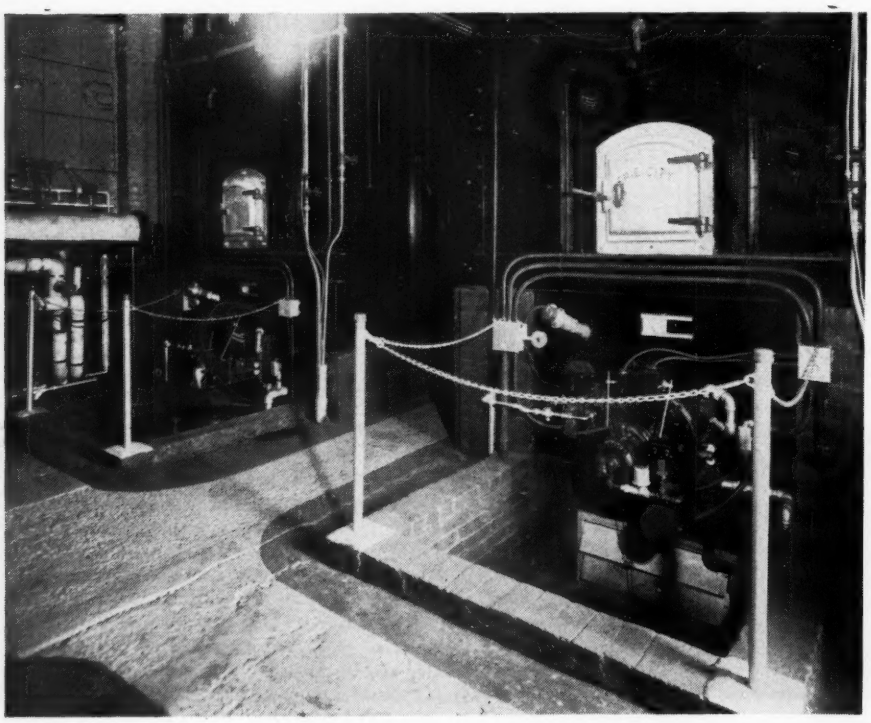
Control Style

We take up next the matter of burner control. Except for large central station work, practically all burners today are made for automatic starting, implying a means of ignition. Electric spark ignition is confined to a few types of pressure atomizing burners; horizontal rotaries almost universally employ electric-gas ignition. The lack of service from a utility supply need not deter using gas; bottled gas gives excellent results for ignition, provided of course that the gas tip is designed for it.

Every automatic oilburner, of course, embodies in its control system some sort of flame detector and means of interrupting burner operation on failure of ignition during startup or failure of flame subsequent to startup. Earlier methods depended solely on some form of bimetal—diaphragm, or helix, or rod or hook—which would alter its shape in such manner when its temperature rose as to operate a switch. These stackswitch systems assumed that the gas flame would be burning during the startup, and allowed the fuel valve to open and admit fuel into the firebox.

Stackswitch systems are now confined, principally, to smaller sizes of burner; jobs that burn 30 gph. or more should be equipped with electronic safeguards. The electronic system can be applied in a similar way, allowing the fuel valve to open on startup and using an electric eye flame detector

*C. Hoffberger Co., Baltimore, Md.

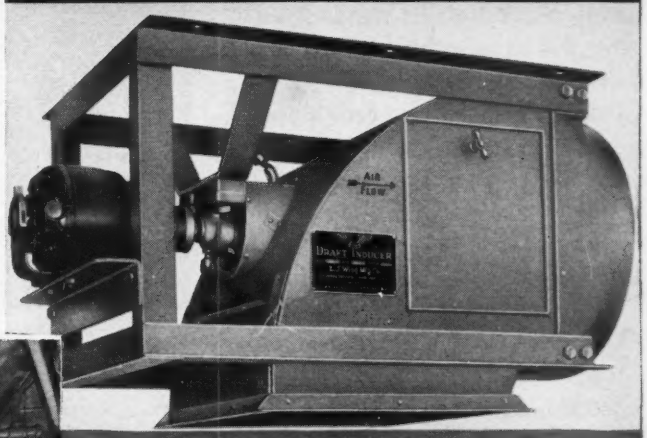


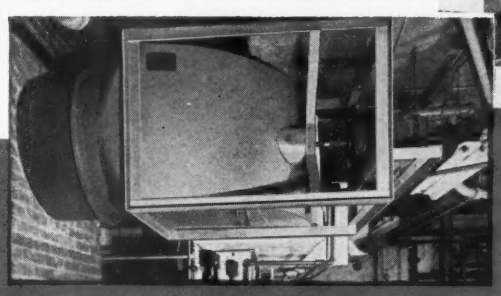
The magic of "motorized chimney draft"

"'Motorized chimney draft' provided by a draft inducer, can get you out of the worst kinds of trouble on old jobs, and on new jobs can give you the top-notch combustion and over-all performance that's beyond the reach of the man who doesn't know the magic of induced draft."

Quotation above from "Motorized Chimney Draft" in FUELOIL & OILHEAT, November, 1951 issue

THIS IS THE WING DRAFT INDUCER





(At right) Wing Draft Inducer with side inlet installed in breeching, replacing standard elbow

ADVANTAGES OF WING DRAFT INDUCER

1. Eliminates tall, unsightly and expensive stacks.
2. Cuts fuel costs. Gives higher CO_2. Less excess air.
3. Smoke is reduced or eliminated.
4. Helps maintain steady steam pressure.
5. Permits increased capacities.

The WING DRAFT INDUCER permits operating at high efficiencies without regard to weather conditions. Thorough and complete combustion with high CO_2 content is assured. Smoke is reduced or eliminated. Fuel costs are cut.

Learn the facts of motorized chimney draft and insure better combustion.

Get Rid of Tall, Unsightly Stacks

L. J. Wing Mfg. Co. 176 Vreeland Mills Road, Linden, N.J.
Factories, Linden, N. J. and Montreal, Canada

Wing
REVOLVING UNIT HEATERS

Write for a copy of "Motorized Chimney Draft", a detailed discussion of the benefits of induced draft from the standpoint of the oilheating dealer and service man. Use the coupon. A copy will be sent you immediately.

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Please send me a copy of the reprint "Motorized Chimney Draft" together with a copy of your bulletin "Wing Draft Inducer".

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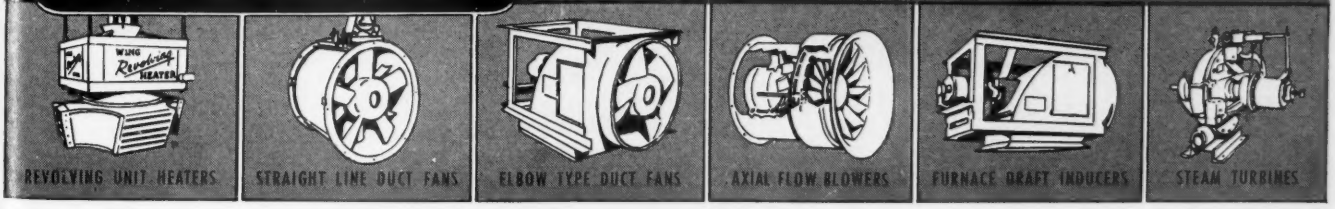
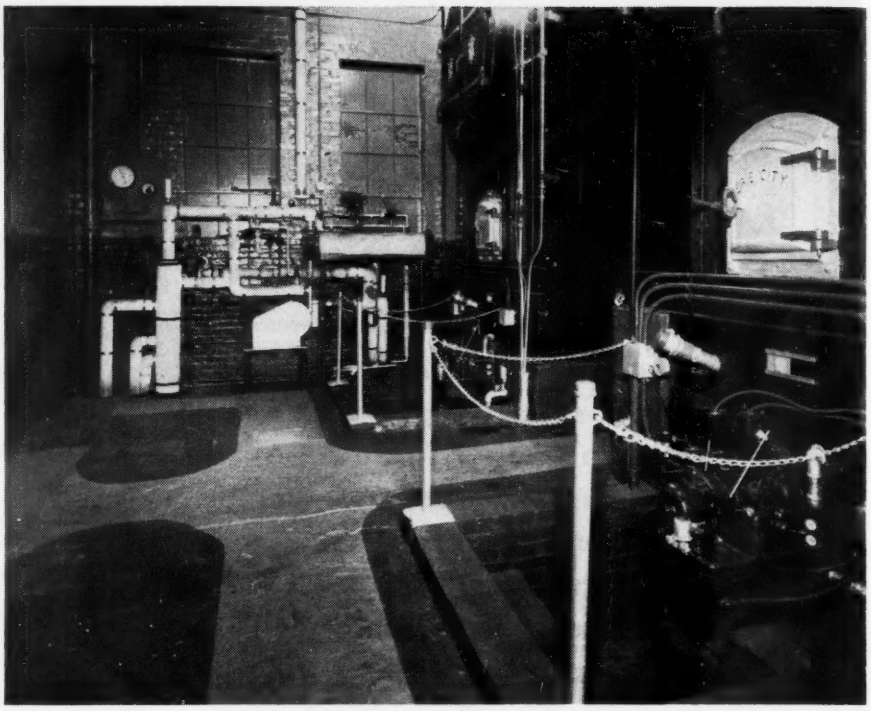




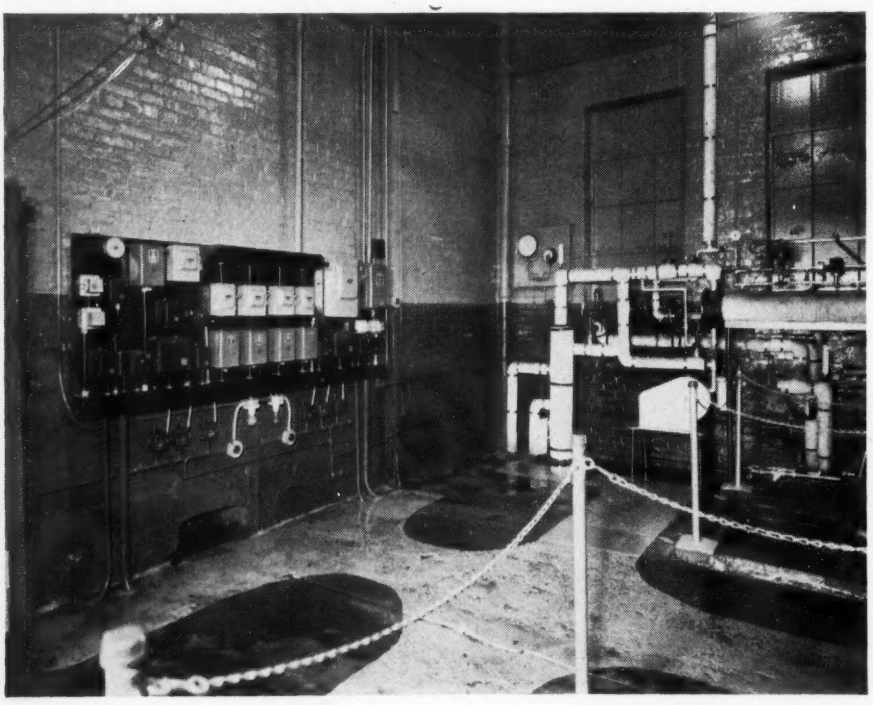
that will give instantaneous shutdown if the flame fails after startup, but the more conventional electronic safeguard provides also supervision of the gas pilot, and will not allow the fuel valve to open unless the gas flame has first been proved. A full discussion of primary relays, both electric and electronic, will be presented in subsequent articles of this series.

To avoid building up a firebox pressure at the instant ignition occurs, which might cause smoke and flame to issue from the firing port, most industrial burners start up with a reduced oil flow or small fire. This is accomplished by a leverage that interlocks a valve in the oil feed line and a damper in the air supply duct to the nozzle, actuated by either an electric or pneumatic motor. Whenever a burner stops, this motor assumes the starting or low fire position, and remains there until after ignition is established, whereupon it moves so as to increase the firing rate.

If the motor moves to maximum fire position and remains there throughout the running cycle, then the control system is described as low-fire start. If the motor responds to some form of controller (pressure or temperature) that moves it to low-fire position while the burner is still running and is capable of moving it back again to full fire position while the burner is still running, then the system takes the name of high-low control. Finally, if the motor responds to a form of controller that can hold it at any position intermediate between maximum and minimum, and the response can cause motion in either direction, the system is known as modulating. A subsequent article will describe the various types of motors and controllers used to obtain variable firing.

The selection of the operating control—the device that causes the burner to stop and start—can be very simple or can be somewhat complicated, depending on the nature of the installation and the scope of the dealer's contract. If the burner is called upon merely to maintain constant steam pressure or constant water temperature in the boiler, then the boiler limit switch is the operating control. Often, of course, the dealer's contract includes also the apparatus needed to govern temperature throughout a large building. The subject of building temperature control will be reserved to a later article.

In high pressure steam plants usually, it is sufficient to control the burner from boiler pressure, but in many cases there will be needed also a low pressure steam control for use at night and over weekends when the process load is off but the boiler must still carry the building heating load.



Grade of Oil

For years the standard practice in industrial burner work, especially, when using horizontal rotary burners, has been to burn No. 5 oil cold, and to preheat No. 6. Deviations occur, of course, because of differing climatic conditions and varying fuel specifications in various parts of the country. Thus, some installations for No. 5 will incorporate an electric heater to give a small temperature rise of the fuel entering the atomizer, but no attempt is made to heat the oil in cir-

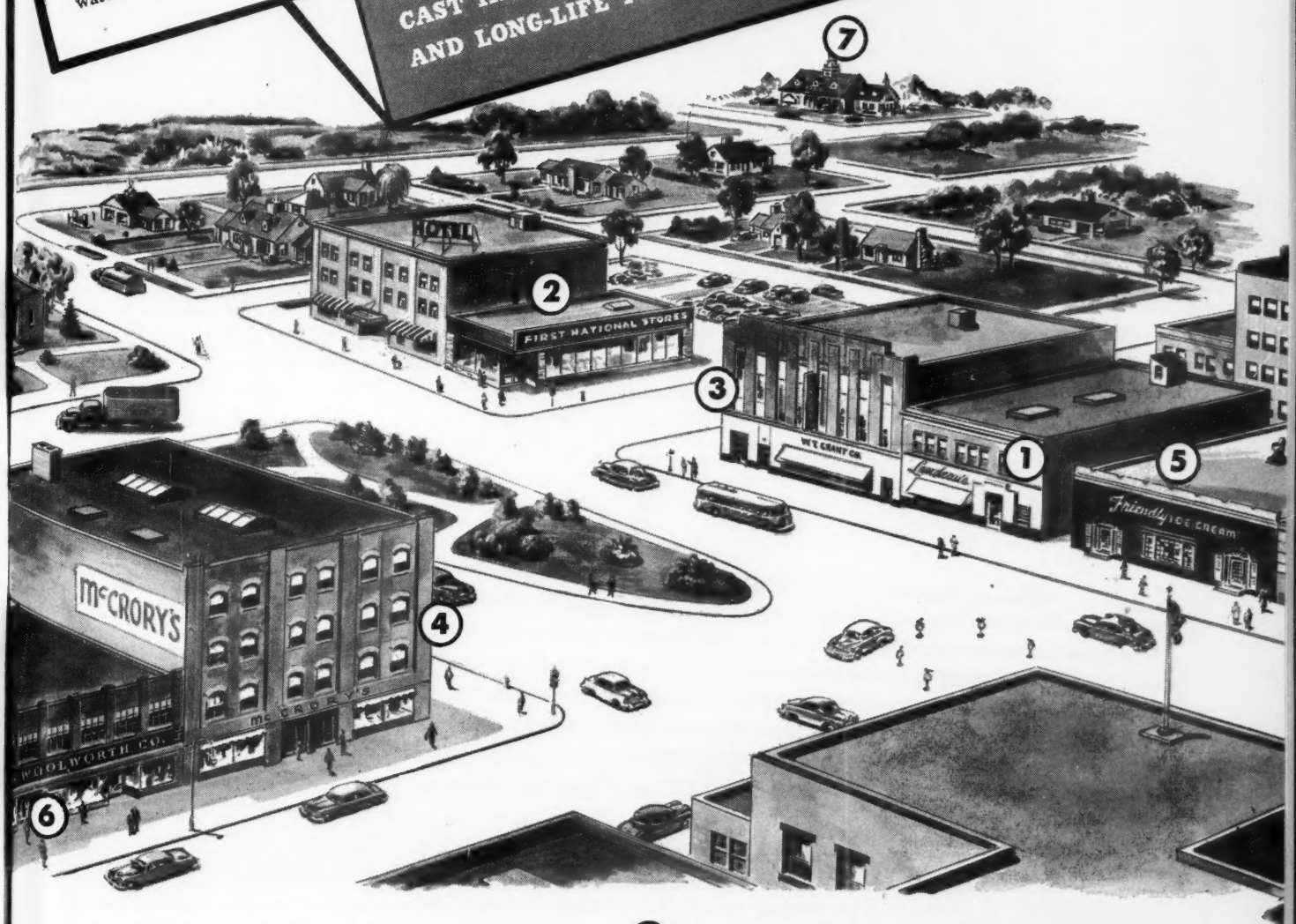
USE OF H. B. SMITH BOILERS BRINGS IMPORTANT SAVINGS WHERE RETAIL COMPETITION IS KEENEST

In order to offer values to their customers, retail merchants must obtain values from their suppliers. This simple rule of economics has prompted thousands of chain and independent retailers to install H. B. Smith cast iron boilers for heat and ample domestic hot water supply.

Cost Conscious Retail Chains Select

H.B. Smith

CAST IRON BOILERS FOR ECONOMY AND LONG-LIFE TOP PERFORMANCE



M. N. Landeau, Inc.: Many H. B. Smith-Mills boilers are installed in this progressive and growing chain of variety stores.

First National Stores, Inc.: Another famous food chain has seen the economies made possible with H. B. Smith boilers, and has specified them as standard equipment for its numerous retail outlets.

W. T. Grant Co.: More than 200 Grant stores use Smith-Mills boilers. In their largest store, at Syracuse, N. Y., the gas-fired #60 units deliver a total of 12 million b.t.u.'s per hour.

McCrory Stores Corp. at Canton, Ohio, has two #44 cast iron boilers, fired by pressurized gas burners. This organization, like many others, has standardized on Smith boilers throughout its far-flung chain of stores.

Friendly Ice Cream Corporation: A favorite "snack" chain in New England, these Friendly stores have their favorites, too . . . in this case, Smith boilers, which are standard equipment for heating the buildings and providing large amounts of domestic hot water.

6 **F. W. Woolworth Co.:** Low operating costs, an important item when selling mass-priced merchandise, has been an important factor in the decision to use H. B. Smith boilers.

7 **Howard Johnson's:** Smith boilers are standard in the famous Howard Johnson restaurants and at its manufacturing plants. The boilers furnish warmth for the patrons, and the large volumes of hot water needed for cleaning.

H.B. Smith

CAST IRON BOILERS

The H. B. SMITH CO., INC. • WESTFIELD, MASS.

Established 1853

OFFICES AND REPRESENTATIVES IN PRINCIPAL CITIES

culation between burner and tank. In other cases, a small heater using either boiler water or steam as heating medium heats only the oil recirculated back to storage, but oil drawn from storage by the burner passes to the atomizer at tank temperature.

Installations laid out to handle No. 6 (bunker C) fueloil require three distinct stages for heating the fuel or maintaining oil at elevated temperature. An electric heater on the burner produces sufficient oil from a cold start to permit the burner to get under way. As boiler temperature rises, or steam is generated, the indirect heater goes to work on the oil in circulation, thus providing warm oil for the atomizer and for recirculation back to the tank. As soon as the oil attains correct atomizing temperature in the indirect heater, the electric heater is cut out by its own thermostat.

At the tank, if there is no heating coil, the warm, recirculated oil enters a hot well, which is a vertical cylinder attached to and descending downward from a well, and, to replace the amount burned, fresh oil from the main storage enters the well at the bottom. Or, if a helical coil is used instead of a hot well, the coil also serves to retain warm return oil around the suction stub, and at the same time imparts heat to the oil, using either hot water or steam as heating medium.

Oil Storage and Piping

Whenever possible, oil storage tanks should be buried, outside of the building. If a building occupies the entire lot on which it stands, or some other condition prevents an underground installation outside the building, then the next best thing is to bury the tank under a driveway or some other place inside the building. Finally, if there is no opportunity to place the tank underground, then of course, it must be located either inside the building or aboveground outside.

But in all cases the thing to remember is that the heavy grades of oil require protection from the cold temperatures of winter, both while in storage and while in transit between the tank and the burner. Of course, the Underwriters have set up rules for oil storage, from the viewpoint of safety. All these aspects of storage will be developed subsequently in this series. Here, the more important concern is with storage capacity.

Tank capacity must first conform to delivery practice. In a locality where oil delivery can be had in any amount and with any frequency, tank size becomes unimportant unless size of delivery affects price. In a locality where heavy oil can be purchased only in full truckload, then tank size must provide ample storage while awaiting a truck delivery. If, for instance, a truckload contains 1800 gal., then a comfortable minimum storage would be 3000 gal. Or if the transport truck ranging from 4000 to 4800 gal. represents a minimum delivery, storage must contain at least 6000 gal. Finally, if oil is to be purchased in carload, since tank cars range up to 10,000 gal., minimum storage capacity should be 12,000 gal., and even more if the plant

(*Please turn to page* 116)

U. S. Veterans Hospital, Seattle, Washington—Heated by two Ray fully automatic rotary-type oil burners

Approved for Government Service

RAY OIL BURNERS are an accepted standard for Government and industrial projects. A full range of rotary burner sizes meet all United States Government standards.

PROMPT DELIVERY

All types and sizes of oil burners, combination gas and oil burners, warm air furnaces, water heaters and commercial ranges.

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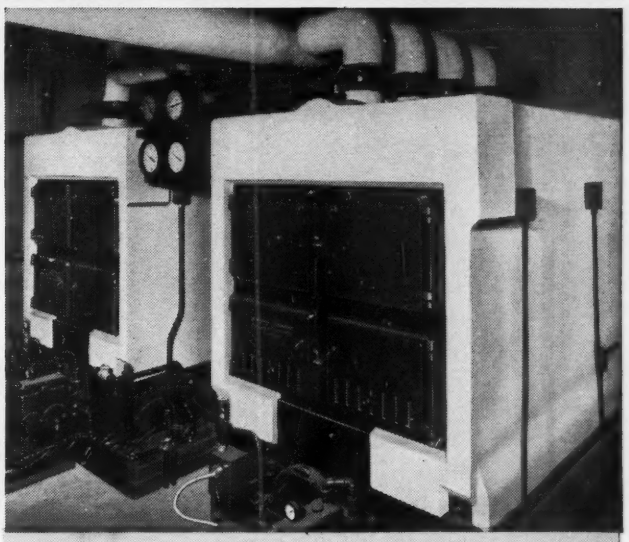
AMERICAN-Standard

First in heating...first in plumbing

Sixth and Denny Branch of Seattle-First National Bank. Architect: John W. Maloney, A.I.A.; Mechanical Engineer: DeWitt C. Griffin & Associates; Mechanical Contractor: Rautman Plumbing & Heating Co.; General Contractor: General Construction Co. All are Seattle firms.



A battery of two or more Redflash Boilers provides a heating plant of extreme flexibility. In cold weather the entire battery will team up to take care of the load. On mild days the fluctuating demand for heat can be efficiently handled by one of the boilers, thus effecting desirable economies in fuel.

Seattle's Most Modern Bank installs Redflash Boilers

Newest branch is fifth in large state-wide system to be heated by AMERICAN-Standard equipment

● One of the nation's fastest growing banks is the Seattle-First National. And it is one of the most progressive. Operating a state-wide system of branch offices, this great institution now ranks 24th in deposits among all banks of the country.

The attractive building shown above is the fiftieth and newest branch to be opened. Known as the Sixth and Denny Branch and located in the heart of Seattle's northern downtown business district, this modern banking building incorporates many unique banking facilities, including drive-in banking and a large parking area.

Another feature which reflects this important bank's sincere interest in the health and comfort of its customers . . . and its own personnel, is the installation of two American-Standard Redflash Boilers to insure dependable and efficient heat and operating economy. Redflash Boilers have also been installed in four other recently opened branches.

Redflash boilers provide economical heating for your commercial jobs!

Expertly engineered and sturdily constructed, the Redflash Boiler can be installed singly or in battery to provide an abundance of heat for large residences or commercial buildings of practically any size. Its scientifically proportioned combustion chamber, direct heating surface, and long flue travel for hot gases assure highest heat output with the least fuel. For detailed information about the Redflash Boiler and other large size oil fired heating units in the American-Standard line, contact your wholesale distributor.

Easy to Install...

Redflash Boilers are shipped in sections, so that even the largest size is easily moved through a door or elevator hatch. Can be assembled quickly without tearing down walls or shifting heavy equipment.

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COMMERCIAL & INDUSTRIAL oilburning

Water Walls* adapt short-firebox Boilers to Oil

Furnace Extensions avoid Disadvantages of pitting, Dutch Ovens

by
Jean L. Dupuis

BECAUSE of its many invaluable advantages, the horizontal rotary cup burner has gained world-wide popularity. This burner is without doubt the favorite type burner of most dealers who handle equipment for burning the heaviest fueloils.

However, there's this about the horizontal rotary cup burner: It has a bluntly definite idea about the shape of the flame it should throw. It is determined to throw a flame which is long and narrow. If you try to thwart this determination by forcing a horizontal rotary cup burner to fill with fire a combustion chamber having a round or square floor plan, you learn that the burner can fight back in ways that are endlessly troublesome and expensive to you.

Most dealers handling these rotary burners have learned that they should be fitted with fireboxes which are twice as long as they are wide. Playing safe, some horizontal rotary cup burner experts prefer boiler-base widths and lengths by making fireboxes two and one-half times as long as they are wide.

To make the firebox too short for the flame does not work out, then, with a horizontal rotary cup burner. Where for example a dealer must fire 20 gph and the burner manufacturer says a 24″ width is suitable for the firebox and the length must not be less than 55″, the wise dealer does not try to get by with a firebox length of 36″. He knows that extra firebox width will not make up for insufficient firebox length, not with this type burner. He knows he can't fool the burner by installing a firebox 36″ wide and 36″ long, where a firebox 24″ wide and 55″ long is needed.

All of the foregoing applies to a general characteristic of the horizontal rotary cup burner, which has been learned by many dealers handling different makes of burners. True, to obtain flames uncommonly short and wide is indeed desirable for certain installations. One or two burner manufacturers have made outstanding efforts at this. But by and large, the horizontal rotary cup burner does not give a flame that fits a firebox having a floor plan which is round or square. This type burner inclines to give the long flames of the proportions which have been stated. The dealer who works against this natural inclination of the burner usually invites trouble.

What is a dealer to do then, when in finding an opportunity to replace coal firing or inferior, decrepit oilburners, he learns that the boiler bases are not of the length and width proportions suitable for the horizontal rotary cup burners he hopes to install?

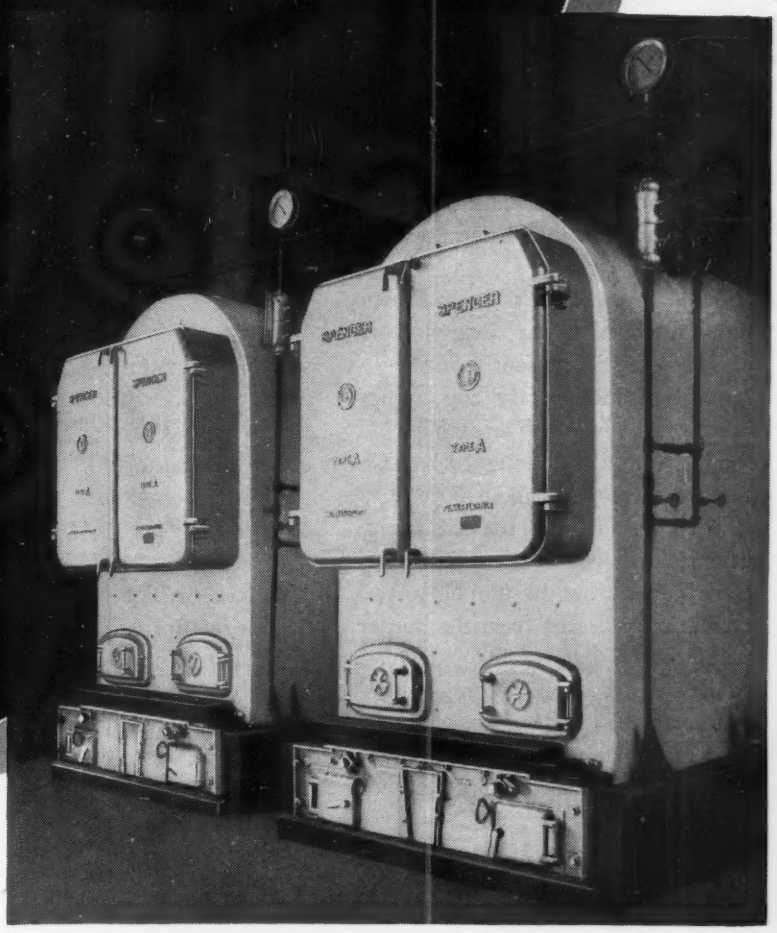
*Patented by Crotty Mfg. Co., Inc.

Installing the water-wall. *First step, upper left, is to remove the firing doors from the front of the boiler since the water-wall is high enough to cover the original front-door space. Next, upper right, one of the doors from the front is installed on the side of the boiler, where is provided an excellent, clear view of the fire for a serviceman. The lower right-hand picture shows the inside of the front plate of the water-wall. The tubes admit secondary air, the annular admission of the air into the cylindrical firing chamber assisting speedy, complete combustion. The front of the boiler has been cut, lower right, to receive the water-wall, with a strip of boiler-plate welded in place. The water-wall shown here ready to be pushed forward into place has a built-in integral oilheater.*

SPENCER

THE QUALITY LINE OF

HEATING BOILERS



Modern Spencer Boilers installed in the big new Walter M. Williams High School, Burlington, N. C.

Heating Contractor: Robb Plumbing & Heating Company, High Point, N. C.

Architect: R. R. Markley, A.I.A., Durham, N. C.

Heating Engineers: Watson & Hart, Greensboro, N. C.

There is a Spencer for every building . . . for every fuel

You can select from 76 different models, both cast-iron and steel. Versatile, dependable, every Spencer Boiler is backed by more than sixty years of leadership . . . precision-engineered and manufactured to give superior, guaranteed service.

Write for Spencer Catalogue today.

IBR SBI H

SPENCER HEATER

LYCOMING-SPENCER DIVISION

WILLIAMSPORT LYCO PENNSYLVANIA

His predicament is increased if, as often happens, he hopes to install automatic burners for No. 6 oil, for these have particular need for long-enough fireboxes and perform particularly poorly without them.

Thousands upon thousands of boilers, now fired by coal or by oilburners that should be replaced, are of the type we shall call in this article "the short firebox type." Defining that right now, we'll say that this type boiler has a combustion space of round or square floor plan, or if not in this category, nonetheless, does not permit building an oilburner combustion chamber twice as long as it is wide or, better still, two and one-half times as long as it is wide.

Such a "short firebox" boiler, when simply fitted with the usual firebox, does not permit efficient firing by a typical horizontal rotary cup burner at a reasonably high gph rate which will produce from a well-designed boiler a stack temperature of about 600° F.

To be specific, suppose the equipment dealer hopes to sell a horizontal rotary cup burner to use No. 6 oil automatically, learns from the burner manufacturer that on the particular installation a firebox 55" long is needed to carry the load, but finds that the boiler on the job is a "short firebox" type which can contain only a firebox which is 36" long.

He needs a firebox 55" long, but inside this particular boiler he can build a firebox only 36" long.

That's the predicament in which certain enthusiasts for No. 6 oil rotaries find themselves dozens of times a year. Is there a good way out of such a predicament?

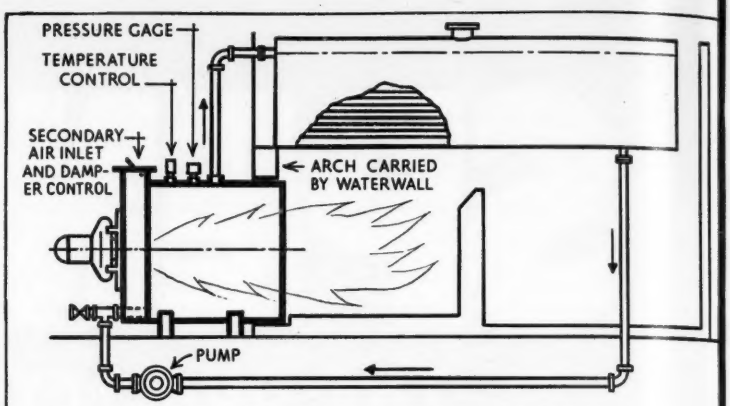
A corollary to this combustion predicament: How to improve an installed oilburner that is giving tremendous amounts of trouble because it needs a firebox 55" long but is firing a firebox which was built only 36" long because a longer firebox could not be built in the particular "short firebox" boiler?

Burner dealers for years have used two methods out of this predicament.

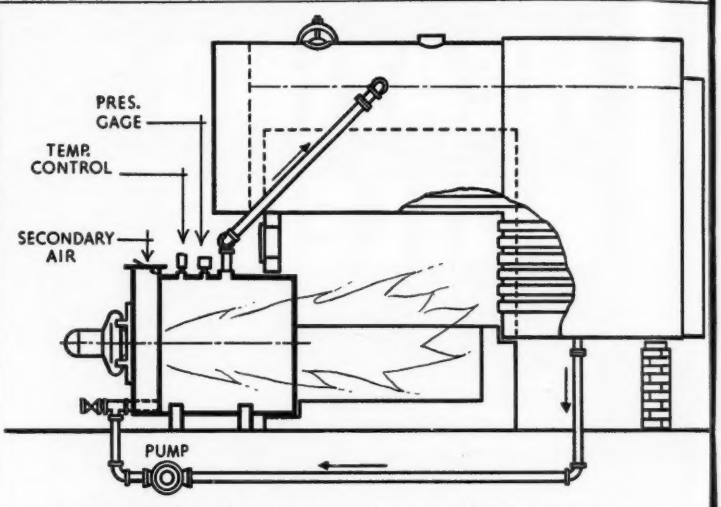
Method #1: Increase greatly the amount of combustion space in the boiler by either (a) raising the boiler considerably and putting under it a high base or high brick structure, or (b) making a considerable pit below and in front of the boiler to locate the burner below the original floor level and have it fire a combustion chamber located largely below the original floor level.

Method #2: Install a long firebox or combustion chamber for the "short firebox" boiler by arranging to have much of the combustion chamber extend out of the boiler. This involves use of a "furnace extension" or "Dutch

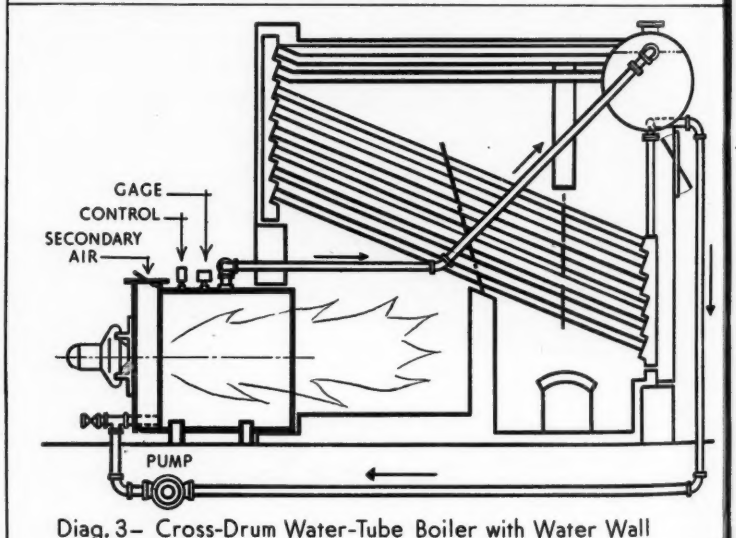
Diagrams *1, 2 and 3 show typical applications of water-walls. Diagram 4 contains front and side views of a Crotty water-wall fitted with an integral heater for No. 6 oil. Made of boiler-plate and constructed to keep the oil in contact with the outer wall of the water-wall, the heater provides a tortuous, zig-zag path for the oil to follow. Usually two heaters, connected in series and one located on each side of the water-wall, are used.*



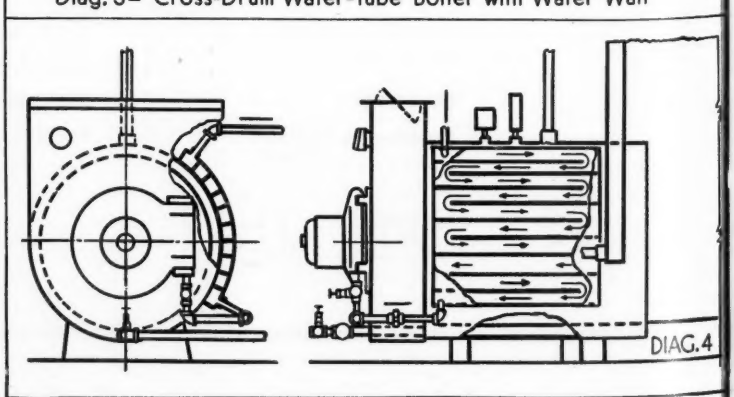
Diag. 1 – Water Wall applied to HRT Brickset Boiler



Diag. 2 – Water Wall and Brickset Boiler with Short Firebox



Diag. 3 – Cross-Drum Water-Tube Boiler with Water Wall



PREFERRED Anti-Syphon Valves

PR-194

APPROVED BY

UNDERWRITERS' LABORATORIES, INC.

Permits pumping of oil but closes to prevent syphoning in case of suction line break.

FOR OILS UP TO No. 5
Valves C5 and C10 are available in ⅜" and ½" sizes.

FOR OILS UP TO AND INCLUDING No. 5
Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size, with fittings.)

FOR OILS UP TO AND INCLUDING No. 6
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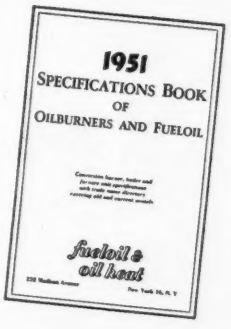

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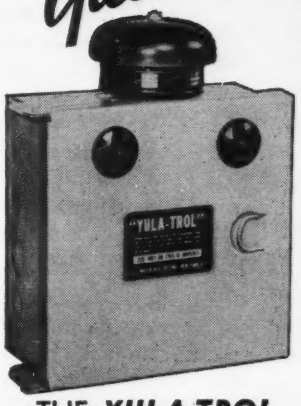

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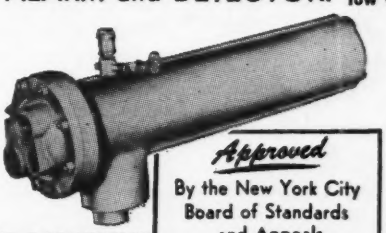

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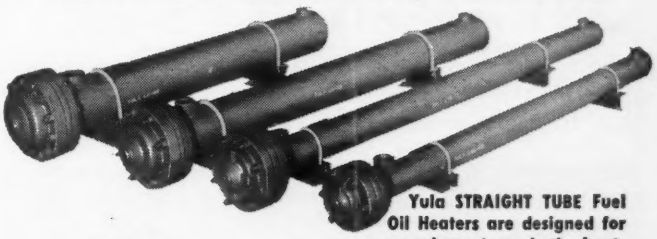

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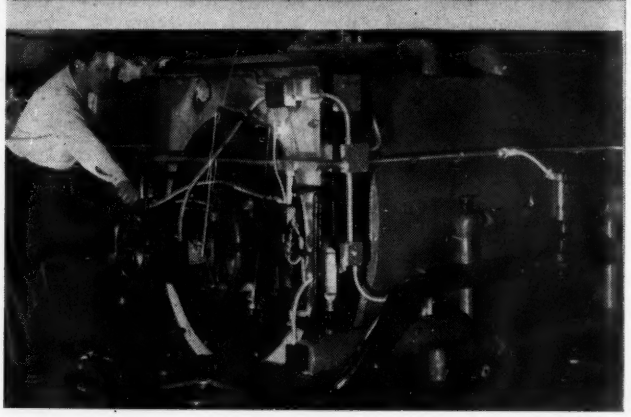


Top: *Water-wall installed in high-pressure boiler, fired by fully automatic burner using No. 6 oil. High-pressure steam Crotty water-wall is made up of water tubes backed up by a cylinder of refractory material which is encased in a metal jacket. The high-pressure type is the original model.*

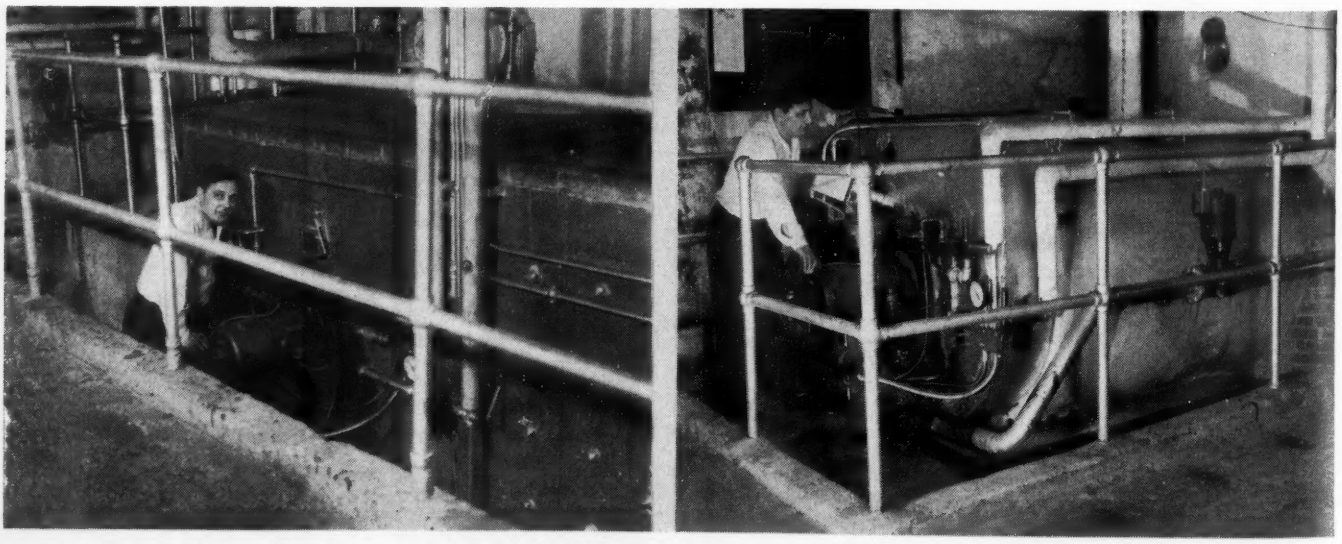
Bottom: *Low-fire starting and fully-automatic operation using No. 6 oil are among the features of this job equipped with low-pressure water walls. This, incidentally, is regarded as one of the most dressed-up, sparkling boiler rooms encountered in years.*

oven" made of refractory material. Particularly intensive, diligent equipment dealers make much of the details of selecting the construction plan and refractory material used in such a furnace extension or Dutch oven, and may even encase a Dutch oven in sheetmetal or boiler plate where they try to show it up at its best.

The first method described above meets with considerable success on many installations. To use this method for boilers already installed, either there must be head room to permit raising the boilers considerably or it must be possible to make the pits under the boilers. Underground rock or water sometimes gives expensive complications concerning making the pits. The first method strikes slantwise at the basic combustion problem in that it does not provide the long firebox which according to the burner manufacturer is needed for excellent combustion, but provides instead a high firebox and ample combustion space.

The second method, involving the use of a furnace extension or Dutch oven, made largely of refractory material, has obtained poor results on many installations. There are good reasons for this. Made long enough to provide the considerable extra firebox length needed on many installations, the Dutch ovens tend to run extremely hot. In fact, the temperatures developed in them may ruin even carefully selected refractory material within an unsatisfactorily short length of time. Many of the Dutch ovens now in use are considered unsatisfactory because they require expensive repairs entirely too often.

In additon, air leaks often are a problem with Dutch ovens of considerable size. These may relate to overly-cheap construction in the first place, or to the need for frequent repairs to seal air leaks, or to the tremendously high temperatures developed in the Dutch ovens. These high temperatures are developed, of course, because of the great amounts of radiant heat the flames pour into the Dutch ovens even while the Dutch ovens deliver none of this heat to the boiler water and can



Pitted boilers, *with Dutch oven extensions encased in boiler-plate, were used in this installation, until the owners of the apartment house modernized the boiler shown at the right with the water wall addition. To service this burner is more of a pleasure than servicing one of the two burners in the pit!*

deliver little of the heat to the atmosphere of the boiler rooms. All-in-all, Dutch ovens of considerable size are avoided like the plague by dealers in commercial and industrial burners.

Methods #1 and #2 often are combined, the dealer providing additional combustion space under the problem boiler by raising or pitting it, and at the same time adding a Dutch oven of mild proportions not likely to be troublesome, to increase just a bit the length of the burner combustion chamber.

Method #3, new to many dealers specializing in burners for heaviest fueloils, relates to the Crotty Water-Wall Extension furnaces shown in the illustrations which accompany this article, and made by the Crotty Manufacturing Corporation.

The manufacturer states the Crotty Water-Wall and its application are fully patent protected.

This Crotty Water-Wall consists basically of two steel cylinders, one within the other, with force-circulated boiler water between the cylinders to provide for both heat absorption and necessary cooling of the inner cylinder which, of course, receives immense amounts of heat from the flame it contains. The accompanying drawings give an idea of the arrangements used with different types of boilers.

This water-wall is permanently connected to the front, side or rear of a conventional boiler to lengthen the firebox, increase the furnace volume, add radiant heating surface, and provide the boiler and its waterbacked extension with the advantages of high-capacity forced circulation.

Lengthening the firebox of a problem boiler has obvious advantages, and the water-wall can provide enough extra firebox length to satisfy the most requiring enthusiast for horizonal rotary cup burners. Thus the water-wall can be viewed as taking the place of a Dutch oven of great length.

Increasing the furnace volume (this term is used here to indicate the space in and above the combustion chamber, occupied by the flame and products of combustion before they travel on to the flue passages of the boiler) has advantages in itself. These advantages are needed particularly where, as a result of installing the water-wall, the plan is to put much more fire into the boiler than was the original intention of the designer of the boiler.

Adding highly-effective radiant heating surface is a big point with the advocates of this water-wall, for they declare that this increases greatly the capacity of a boiler on the basis of a given boiler efficiency or stack temperature, or instead with the load the same increases greatly the efficiency of the boiler.

The manufacturer of this water-wall unit declares that its ratings are based on two square feet of water-wall surface producing one boiler horsepower, and cites that this is conservative insofar as during tests nine-tenths of a square foot of the surface proved to produce one boiler horsepower.

The additional boiler capacity obtained through installing this water-wall is said to be appreciated, especially where tankless water heating coils or additional radiation or horsepower load are being added to an overburdened boiler. (*Continued.*)

GUARD *Against Leaking Oil Tubes*

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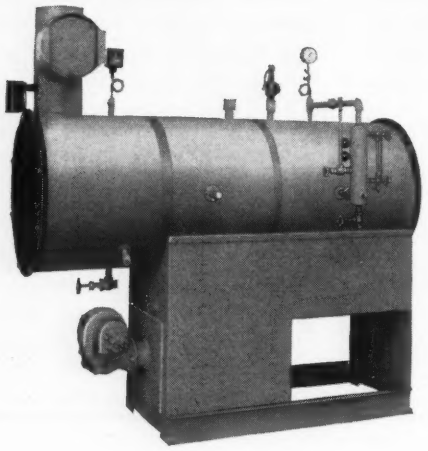

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COMMERCIAL & INDUSTRIAL oilburning

. . . Water Walls

A check-up on the reasons for dealers having installed the Crotty water-walls now in use showed:

1. Many of these were installed to avoid the use of troublesome Dutch ovens constructed mainly of refractory material.

2. Additional boiler capacity was needed, compared to what could be obtained through firing the boilers using any of the usual methods, and without increasing their heating surface.

3. After starting to make pits for boilers, the contractors ran into trouble because of underground rock or water, and quickly turned to the use of these water-walls to end the costs and complications related to the rock or water, also to assuredly complete their installations on time.

4. Figuring jobs, dealers wanted to quote fixed prices and avoid contract clauses and worries related to encountering underground rock or water in making pits for boilers and burners. Certain dealers declare they make a point of eliminating the rock and water clause from a contract because "in event rock or water is encountered, the clause benefits neither the contractor nor the equipment buyer."

5. Water-walls of this type were installed to insure excellent oilburning performance and sufficiently high outputs from boilers suspected of being overloaded, and from boilers that without the water-walls would be unsuitable for firing by horizontal rotary cup burners.

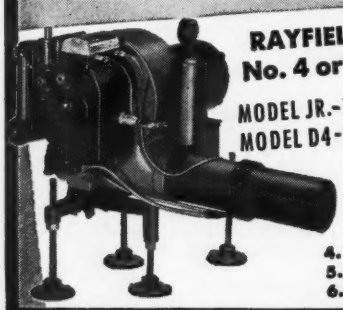
6. Low oil consumption was the objective in adding the water-walls.

7. The objective of installing the water-walls was to eliminate excessive repairs to fireboxes on some installations, and to make certain such high repair expenses would not occur on other installations.

The centrifugal circulating pumps shown in the drawings are considered necessary for enduring, proper operation of the water-walls, and are highly beneficial with respect to the circulation of water in the boilers themselves. A terrific rate of circulation is used, a pumping rate of 120 gallons-per-minute is cited as typical for a low-pressure steam heating boiler. The circulator of such an installation runs only when the oilburner runs, and a temperature control is used to stop the oilburner if the circulator fails to operate for any reason while the burner is running.

RAYFIELD OIL BURNERS

AUTOMATIC



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1. Fully Automatic
2. Self Cleaning Nozzle
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4. All Electric Operation
5. Pays for itself from savings
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1. Amazing Economy 12 to 15% CO_2
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3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
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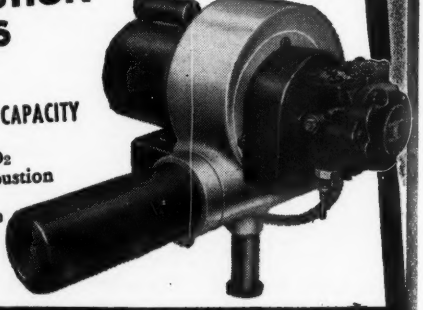
6. The ideal replacement oil burner



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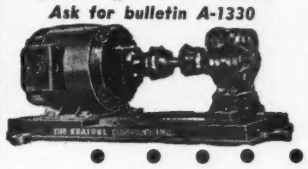

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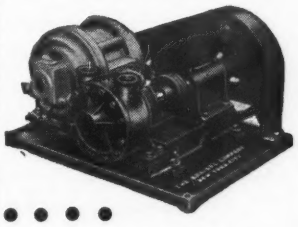

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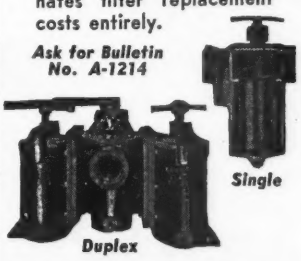

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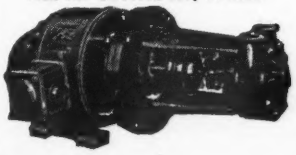

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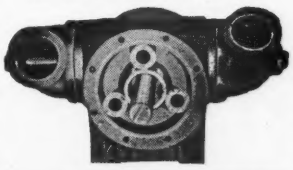


KRAISSL KRAISSL CO. Inc
295 Williams Ave., Hackensack, N. J.

Brown Instruments Head sees huge increased Demand by '55

"INDUSTRIAL INSTRUMENT DEMAND by 1955 should double purchases of 1950," estimates Henry F. Dever, president of Brown Instruments Div., Minneapolis - Honeywell Regulator Co., Minneapolis, Minn. "At least 56% of the increase will have been realized in 1951, 78% by end of 1952 and the remaining increase will be distributed through 1953 and 1954."

Mr. Dever pointed out, however, that future actual increases will be greatly determined by the aggressiveness of the industry's activity in expanding to meet these demands which are coming from mobilization and technological advances. "In addition to basing our estimates on incoming orders," Mr. Dever said, "we have measured them by a yardstick that indicates greater use of industrial instruments by firms whose growing needs for instrument controls are only now being realized."

Where 14,000 manufacturers were serviced by process measuring and controlling instrument makers in 1930, today orders stem from not less than 40,000 buyers. Mr. Dever points out that each new development, such as the petro-chemical field, is increasing the need for automatic controls. As he puts it, "Industrial instruments are being called upon to become the hearts and brains of America's accelerated demand for new, better and more products."

Hev-E-Oil Burner Outlet concludes sales Contest

A SALES CONTEST, conducted by Tower Heating & Oil Burner Corp., Inc., Bronx, N. Y., was concluded with a meeting on November 24 at the Concourse Plaza Hotel. The company, an outlet for Hev-E-Oil burners, made by Cleaver-Brooks Co., Milwaukee, Wis., awarded a Longines wrist watch to Moe Spiegel, one of New York's oldest merchandisers of oilburning equipment from point of service, for the best sales record achieved in a contest that ran for three months.

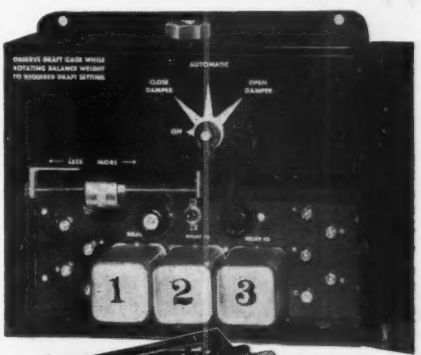
About 30 employees of Tower Heating attended the meeting, which heard Henry Wymbs, Hev-E-Oil

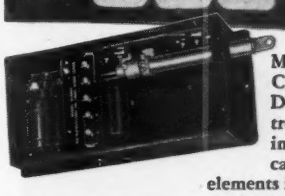
BIRDS don't like us-

but – BOILER OPERATORS do!

Our job is to keep the heat from an oil burner *in the boiler* where it belongs—and not let it rush out the stack to keep the birds warm. Incidentally—it's not only heat going out the stack, but *profit dollars,* in wasted Btu's and unburned fuel (smoke and soot).

CLEVELAND DAMPER CONTROL with TIME-DELAY RELAY





Model DCR-B Cleveland Damper Control provides—in one compact cabinet—all the elements for safe, automatic, electrical remote control of boiler operation. Designed for use with C.F.E. gages and "Lectricarm" (power drive unit.)

Above: Open view Cleveland Damper Control.

Below: Open view "Lectricarm" power drive unit.

★ ★ ★

Besides fuel savings, C.F.E. controls reduce smoke and soot, prolong life of boiler equipment and materially increase safety of your boiler.

Write for 12 page illustrated catalog and manual of oil burning information.

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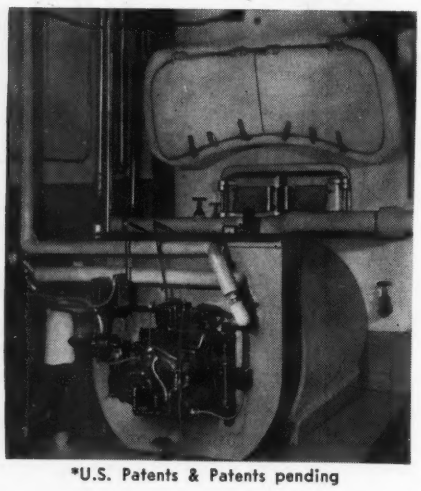
Water Wall & * Boiler Amplifier



*U.S. Patents & Patents pending

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√ Installation costs
√ Operating costs
√ Maintenance costs

INCREASE

√ Efficiency
√ Capacity
√ Dependability

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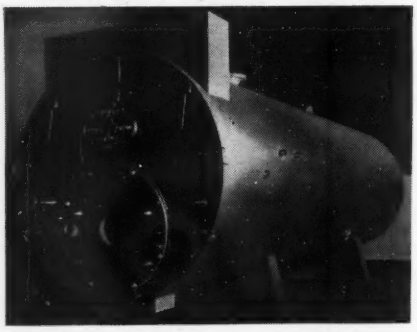

1,000 to 35,000 sq. ft. SBI net rating — Wet Back Top Built-in windbox and firing cone for light or heavy oils.

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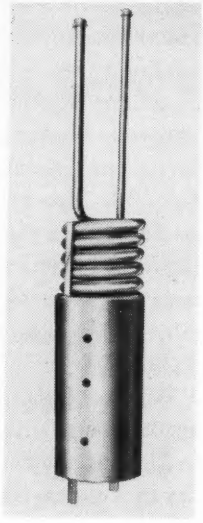
COMMERCIAL & INDUSTRIAL oilburning

Burner Distributors of New York, discuss engineering aspects of the burners and Frank Wymbs, Sr. talk about advertising campaigns and sales potential for 1952.

Hot-Spot Preheaters for Tanks with 14½" Manholes

A HOT-SPOT Rempe preheater for 14½" manholes of bulk storage tanks has been announced. Previous models were for manholes 16½" and larger. This new unit is an all steel shell and coil assembly that is inserted into a bulk storage tank for preheating oil before it enters the suction line. The Hot-Spot rests on the bottom of the tank, with suction pipe and inlet and outlet pipes for either steam or hot water, going through the manhole cover.

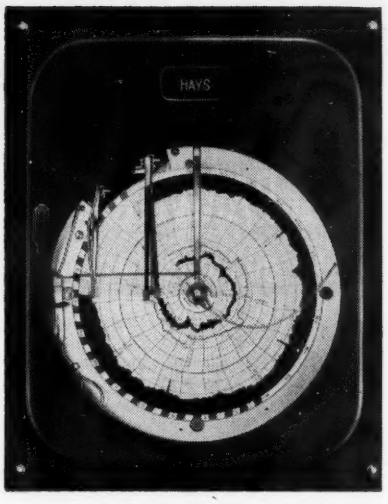


Made by: Rempe Co., 340 N. Sacramento Blvd., Chicago 12, Ill.

Hays combustion Meter shows operating Efficiency

THE HAYS COMBUSTION METER is an instrument that indicates the efficiency of fuel burning operations. It has not been designed as a laboratory instrument, but instead is built to withstand the dirt, heat and vibration that are encountered in industrial installations. Operating on the Orsat principle of volumetric measurement and chemical absorption, the meter employs no mechanical moving parts or friction and is built on the unit plan.

In operation a sample of the flue gas is trapped and accurately measured, and then passed through an absorbing chemical which removes the carbon dioxide of the gas mixture. After absorption, the sample is again measured and its volume compared to the original sample. The difference gives



the exact percentage of CO_2, which is recorded on the chart at the end of each analysis. The cycles are repeated about every two minutes.

Made by: Hays Corp., Michigan City, Ind.

❖

Design of the industrial Installation

(*Begins on page* 102)

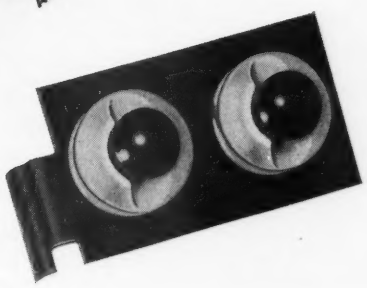
consumption is rapid and car arrivals cannot be predicted closely.

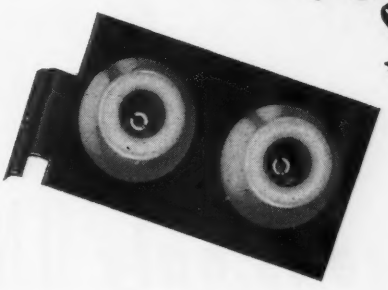
Practice with respect to fill pipe size varies from place to place, being chiefly dependent upon local regulations. If gravity unloading of heavy oils is the rule, then fill pipes may have to be of 6" size. Where pumping may be utilized, much smaller pipes will suffice; for tank truck 2" and for transport and rail car, 3". Vents should be a size smaller than fill pipes on pump fill, but for gravity filling need not exceed 2" unless a local regulation requires it larger. Sizes for suction and return lines are usually specified by the burner manufacturer in his installation manual, but a subsequent article will cover pipeline design.

The final item of the average installation is the control of draft. The most commonly used type of controller is the balanced barometric type attached, usually, to the breeching, but capable of installation also in the natural draft stack itself. The rapidly increasing tendency toward use of mechanical draft, and the development of overfire control systems that adapt themselves readily to hookup with the burner control network make the subject of draft control sufficiently broad to justify separate treatment in another article.

MOUNTING BASES

A71C A45W A84 A82 A91W A70W A73WX A49W A76WX A83W A39 A92W A87 A74C A9W A1WX A89W A85W A75C A78C A93 A77W A79W A53 A94W

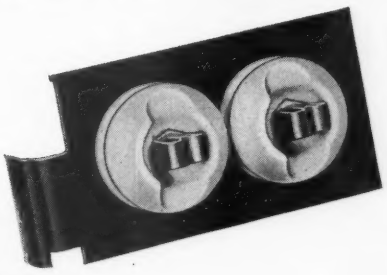


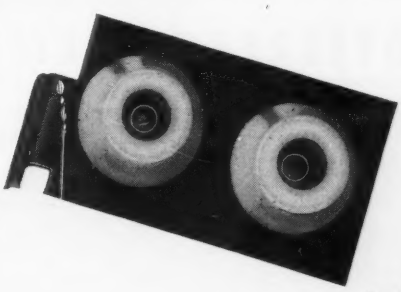


TERMINALS

Binding Post Terminals
Phosphorous Bronze Spring-clip Terminals

Male Rajah Terminals
Female Rajah Terminals





TRANSFORMERS

SUPER BUILDS IGNITION

TRANSFORMERS TO BOTH STANDARD & CUSTOM SPECIFICATIONS

Super's various terminals can be used with any desired mounting base. Super can supply your individual needs in

IGNITION TRANSFORMERS THAT GIVE SUPER SATISFACTION TO YOUR CUSTOMER — TO YOU.

Super
ELECTRIC PRODUCTS CORP.

1057 SUMMIT AVENUE
JERSEY CITY, NEW JERSEY

Mf'd. In Strict Accordance With UL Requirements. Also Approved CSA Specifications.

Fueloil & oilheat

Manufacturers' Activities

May Oil Burner Division sold to the May Fuel Co.

ON DECEMBER 1 the May Fuel Co., former distributors for Quiet May oil-burners, produced by the May Oil Burner Division, Gerotor May Corp., Baltimore, Md., acquired the assets of the Division. May Fuel is a subsidiary of American Oil Co., which, in turn, is an affiliate of the Standard Oil Co. (Indiana).

Charles R. Collins who had been vice-president and sales manager of the Oil Burner Division is remaining with Gerotor May, but will act as a consultant to May Fuel Oil Co. for the next year.

Penn changes Name to Penn Controls, Inc.

THE FIRM NAME of Penn Electric Switch Co., Goshen, Ind., has been changed officially to Penn Controls, Inc., with the announcement emphasizing that the change will in no way alter management, general policies or operation of the company; nor will it have any effect on contracts, agreements or purchase orders.

Albert Penn, president, attributes the change to an effort to evolve a name that more accurately describes the character of the company's business. "Years ago," he said, "the name 'Penn Electric Switch Co.' was descriptive of the products we manufactured. However, over the years our product line has grown to include many other items. During this time our products have become known generally to our customers as 'Penn Controls.' Therefore, all necessary steps have been taken to change the company name officially to Penn Controls, Inc."

Haydon gets Patent on Snaparound Jackets

PATENT NO. 2,575,069 has been granted to Haydon Products Corp., Brooklyn 15, N. Y., covering its Snaparound boiler jacket. The design makes use of normally flat resilient metal panels which, when wrapped around cylindrical boilers, assume a cylindrical shape. The jackets self-locking joints require no mechanical fasteners or screws and the entire assembly can be put together or taken apart without tools. The jackets are compact for shipment or storage.

Debler operating from Office in new Home

WILLIAM J. DEBLER, manufacturers' representative in the New England states, has completed a year's operation, working from a modernized office in the basement of the Colonial type house shown in the photograph and located at 31 Gordon Rd., Needham, Mass. Debler, who has been active in the oilheating field since 1922, represents five manufacturers, and with his son, Bill, Jr., contacts regularly more than 450 jobbers and some furnace-burner manufacturers. In addition, he has organized a service whereby he circularizes 3400 dealers and the jobbers several times a month.

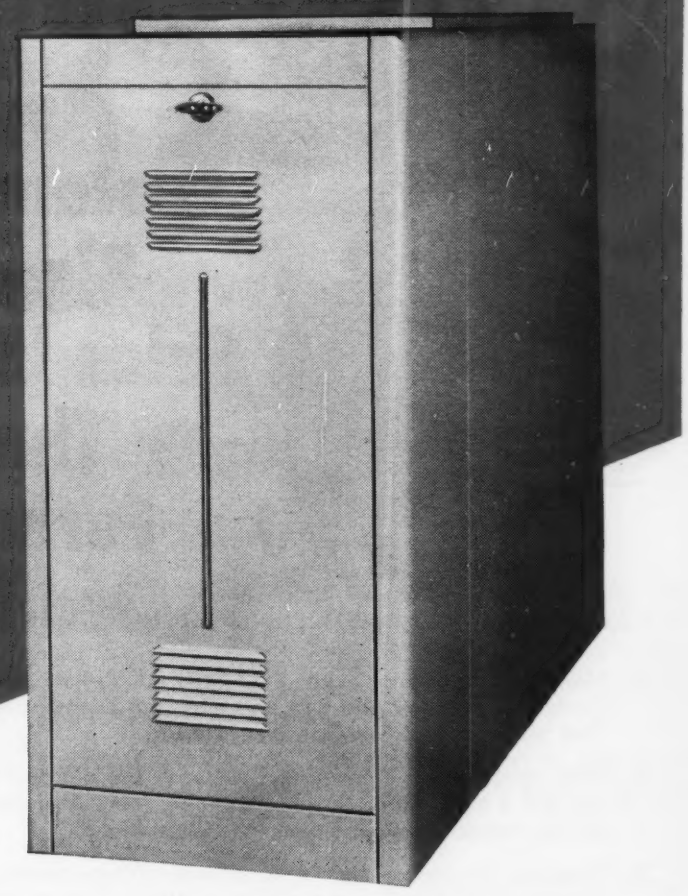
Debler at present is handling Iron Hide combustion chambers and baffles.

There is only ONE
TRADE MARK REGISTERED
Draft-O-Stat
BAROMETRIC DRAFT CONTROL
AND HOTSTREAM MAKES IT!

OVER ONE MILLION
SUCCESSFUL INSTALLATIONS
New Model "B" (illustrated) now available in 6, 7, 8, 9, 10 and 12 inch sizes. Write for Bulletin.
THE HOTSTREAM HEATER CO.
6925 QUINCY AVENUE • CLEVELAND 4, OHIO

EXCLUSIVE PREHEATER ✱

MAKES *MAYFLOWER* EASIER TO SELL



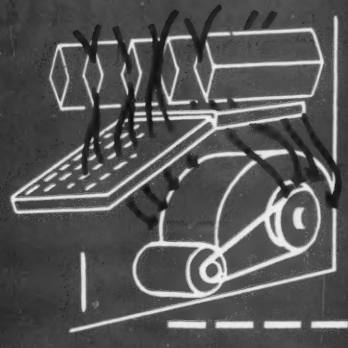
HERE'S WHY

MAYFLOWER
IS BETTER FOR YOU . . . FOR YOUR CUSTOMERS

- **EASY TO INSTALL**—Precision construction and simplified design make Mayflower furnaces easy to assemble and install—Save time—money.
- **EASY TO SERVICE**—Large access doors, readily removable burner assemblies and easily accessible cleanouts make servicing easy—save money on maintenance.
- **DURABILITY**—Simple design is compact, rugged. Firebox and flues of heavy gauge steel are completely shielded arc welded to assure freedom from leaks.
- **BEAUTY**—Cabinet of heavy gauge furniture steel finished in baked wrinkle enamel, completely enclosing burner and controls.

✱ *MAYFLOWER* PREHEATER ASSURES ECONOMICAL OPERATION

Highest possible efficiency is obtained by scientific design of combustion chamber and heat exchanger flues. Cold return air is preheated as it passes over the multiple surfaces of the flues as shown in drawing below.



ALL SIZES . . . FOR GAS OIL • COAL

WRITE FOR COMPLETE INFORMATION

MAYFLOWER
AIRCONDITIONERS, INC.

SAINT PAUL 6, MINNESOTA

Aquaheater rocklined tankless water heaters; Rochester tank gauges, pressure and vacuum gauges and thermometers; Skuttle humidifier and draft controls; Neutroda fueloil deodorant and Tankit, repair patches for fueloil storage tanks. He reports that in New England in 1951 Iron Hide sales reached record highs and that his territory was first in sales of Rochester products.

Bill, Sr.'s activities in the industry include branch managerships for the old Silent Automatic Burner Corp. in

Boston and Philadelphia and operation of his own company in Philadelphia as a Petro-Nokol burner dealer. Since 1930 he has been a sales representative in the eastern seaboard states and in New England.

The year spent in working directly from his home office has convinced Debler of the effectiveness of consolidating his efforts, which the set-up enables him to do, so that he can function efficiently for his present group of manufacturers and any other manufacturers of oilheating equipment and accessories that might be added later.

Super Red Streak Model SH — The heavy duty cleaner that does everything.

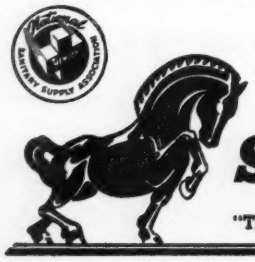
New Customers — Bigger Sales Income Thru Furnace Cleaning

1. **New fuel customers—Super RED STREAK furnace cleaning introduces you to many new accounts. You are in the prospect's home. That gives you the jump on competition.**
2. **New prospects for conversions—Once in the prospect's home, you can sell a conversion. A good cleaning job builds confidence and assures respect for your recommendation.**
3. **Prospects for repairs and replacements—When cleaning a furnace, you are in the ideal spot to make recommendations for repairs and replacements that will save the home owner much trouble and expense.**

The Super Red Streak Model SH is equipped for both wet and dry pick-up, cleans boiler tubes and air filters, can be converted quickly to a blower. A special filter at nominal cost for cleaning oil burners extends the life of the bag and reduces your maintenance cost.

Sales and service in principal cities. Ask your supplies dealer or write.

The FREE SUPER SALES PLAN BOOK tells you how to build a furnace cleaning business. Send for it now.



NATIONAL SUPER SERVICE CO., INC.
1951 N. 12th St., Toledo 2, Ohio

"Once Over Does It"

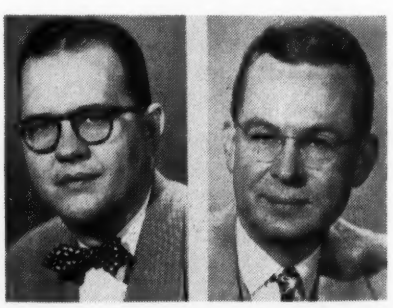
SUPER SUCTION®

SINCE 1911

"THE DRAFT HORSE OF POWER SUCTION CLEANERS"

Buckeye to produce Windmaster Barometeric draft Controls

ON FEBRUARY 1 the Buckeye Furnace Pipe Co., Columbus, Ohio, will begin production of Windmaster Barometric Draft Controls, in addition to its regular line of warm air fittings. The Windmaster is a patented control, designed by R. Wendell Franks of Michigan City, Ind., and features a square vane mounted on an angle for more effective area and to decrease the rotative arc. Richard Cullom, general manager of Buckeye, in making the announcement revealed that production manager James Maxwell and his engineers have redesigned the control.



Cullom Franks

Sell your customers fuel oil *that* WON'T CLOG FILTER SCREENS!

USE IONAD 17

Shell's additive now available to distributors for addition to any distillate fuel.

FILTER-SCREEN CLOGGING due to tars and resins, with its high service costs, can now be eliminated . . . no matter what brand of fuel oil you sell.

The Shell fuel oil additive that *prevents* this clogging is now being marketed to distributors for addition to any distillate fuel oil or diesel oil.

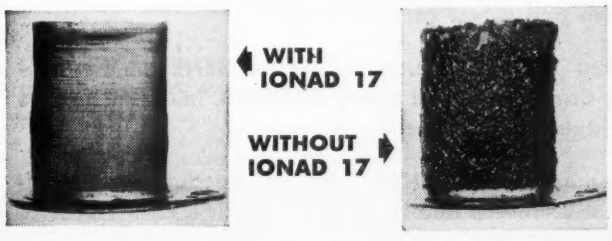
Eliminate chief cause of service expense

A very small amount of Ionad 17, added to your fuel oil stocks, will wipe all service calls due to such filter-screen clogging right off your books. Its cost is repaid many times over through this reduced service cost. And there's no estimating the value of the customer good will you build up through elimination of many service failures.

During 3 years of field testing in thousands of oil burners, not a single failure due to screen clogging has been reported where Ionad 17 was used!

For complete details, write or phone nearest Shell Chemical office.

THE SAME FUEL OIL!



Both filter screens operated for 28 days with No. 2 fuel oil.

SHELL CHEMICAL CORPORATION

CHEMICAL PARTNER OF INDUSTRY AND AGRICULTURE

EASTERN DIVISION: 500 Fifth Avenue, New York 18
WESTERN DIVISION: 100 Bush Street, San Francisco 6

LOS ANGELES · CLEVELAND
HOUSTON · BOSTON
ST. LOUIS · DETROIT
CHICAGO · NEWARK

IONAD 17

An adapter for horizontal and vertical flue pipe installations eliminates the need to cut a hole in the flue pipe and strap a control to the pipe, reducing installation time to a matter of minutes. Windmaster's are available from 6" to 24" sizes and incorporate a patented slide-type balancing weight, calibrated to permit rapid setting for the correct water column inches.

Buckeye is planning a national distribution and advertising campaign on the control, coupled with a sales force of experienced and strategically located heating men to service wholesalers and manufacturers. Franks, who represents Skuttle Mfg. Co. in Indiana, Illinois and Wisconsin, will function in a similar capacity on the sale of Windmaster controls.

Women complete Course at Winkler's training Clinic

FORTY-SEVEN WOMEN, representing 14 states, completed a week's sales clinic sponsored by U. S. Machine Corp., Lebanon, Ind., at the Winkler Training Institute, Lebanon, patterned after the regular clinic attended by some 400 men during 1951.

The Winkler *low pressure oilburner station was popular with trainees at the women's clinic conducted by U. S. Machine Corporation. Shown here are Mrs. Benjamin M. Eby, York, Pa., Mrs. Eldon Graham, Bushnell, Ill., Mrs. Walter R. Leander, Rochester, N. Y., Mrs. William C. Auer, Coatesville, Pa., Walter E. Blake, instructor; Mrs. Victor C. Nagel, Galesburg, Ill., Mrs. Jean W. Stout, Eatontown, N. J., and Mrs. Harold Dermitt, Binghamton, N. Y.*

The women, wives of Winkler district sales managers, dealers and office personnel, were praised by Claude A. Potts, vice-president in charge of sales and originator of the idea. He said:

"With the growing shortage of manpower, due largely to military demands, there is every reason to believe that we will be depending on and looking for the able assistance of the ladies. Already many of them figure prominently in the activities of our accounts, and through these exclusive clinics we hope to impart knowledge, confidence and enthusiasm whereby other women may become active in our merchandising program."

Rx Prescribe GENERAL FUEL OIL FILTERS FOR ALL YOUR INSTALLATIONS

Why? Here Are 4 Good Reasons

DELUXE MODEL 2A-300 FOR THE BIG JOBS

MASTER MODEL 2A-700 FOR MEDIUM NEEDS

STANDARD MODEL 1A-25 FOR SMALL HOMES, HEATERS, ETC.

1 There's a GENERAL FILTER for every fuel oil filtering job—large, medium, or small.

2 GENERALS are easy to install. All that's needed is one wrench and a few minutes' work.

3 It takes just two minutes to insert a GENERAL Replacement Cartridge—and every GENERAL installed means cartridge sales for years to come.

4 Customers *WANT* GENERAL FILTERS because they eliminate shut-downs due to clogged nozzles. Costly service "call-backs" are minimized, too.

GENERAL FILTERS now distributes CLEAN RIGHT SOOT REMOVER—Certain-safe for *all* heating plants. Tell your customers about it.

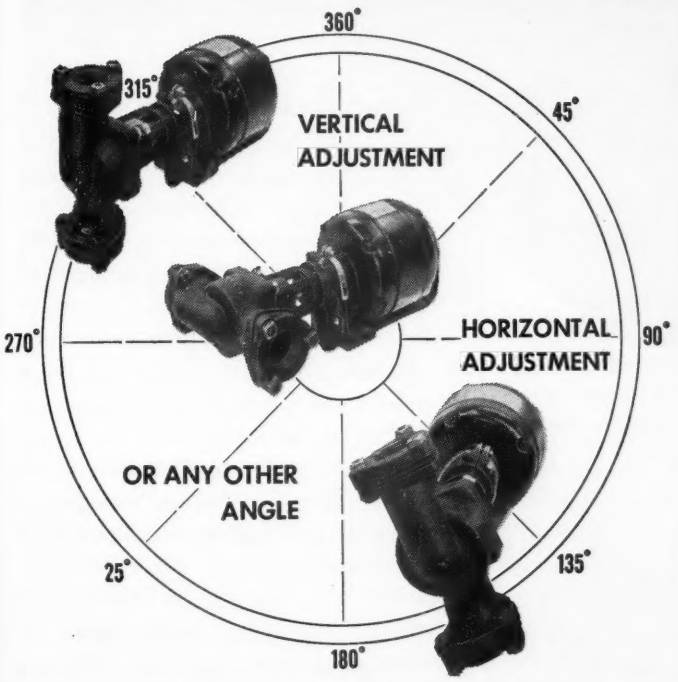
GENERAL FILTERS INCORPORATED

GENERAL FUEL OIL FILTERS

12890 WESTWOOD AVE. DETROIT 23, MICHIGAN

CANADIAN FACTORY BRANCH: CANADIAN GENERAL FILTERS, LTD., 2679 DANFORTH AVE., TORONTO 13, ONTARIO

LOOK to... Econo for MORE



Why 4 Operations Instead of 1?

Why perform four operations when only one is needed with an Econo Hot Water Circulator? Think of the time, the energy and the work you could save in adjusting an Econo Circulator for the flow wanted.

To adjust an Econo at any point on a 360° adjustment nothing need be taken apart, no bolts removed, no gasket removed and replaced.

Moreover, it sustains head pressure, reduces noise transmission and won't overheat.

Sold by jobbers.

Write for our interesting catalog.

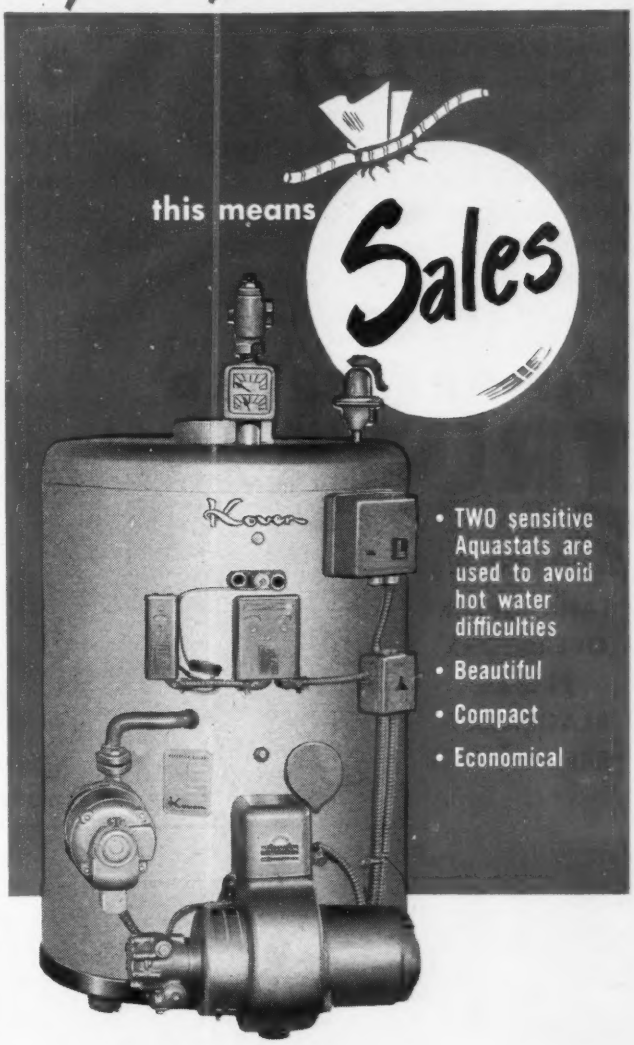
MFGS. of CIRCULATING PUMPS, LOW WATER CUTOFFS
FLOW VALVES HEATING SPECIALTIES

ECONO PRODUCTS COMPANY

17 State Street New York, N. Y.

FACTORY: EAST HADDAM, CONN.

FULLY WIRED AND EQUIPPED for *Speedy installation*



venko

packaged unit by

by Koven

This trim boiler has zoomed into popularity among small home owners. No wonder profit-wise installers are enthusiastic about KOVEN's Venko. Builders and Architects are also putting it high on their "recommended" list. You'll do the same once you realize VENKO's sales-pulling features.

NATIONALLY ADVERTISED. Help yourself to dramatic merchandising aids by dropping us a line today.

WATERFILM BOILERS, INC.
a division of L. O. KOVEN & BRO., INC.
154 Ogden Ave., Jersey City 7, N. J.
Plants: Jersey City, N. J. • Dover, N. J.

Honeywell opens district Office in Harrisburg, Pa.

A NEW DISTRICT OFFICE was opened on December 1 at Harrisburg, Pa., by Minneapolis - Honeywell Regulator Co., Minneapolis, Minn. Located in the Kline Village development, the new office was needed to meet increasing demands in the Harrisburg area for process measuring and controlling instruments and for heating and commercial controls.

William J. Brosch and Jack Caylor will handle sales for the company's Brown Instruments Division; John Hopkins will handle commercial and Donald Schmick heating controls divisions sales.

General Controls completes new Plant at Glendale, Cal.

BUILT to house its recently-established Appliance Controls Division, a new plant has been completed on the property of General Controls Co., Glendale, Cal. The new facility, embracing 15,000 sq. ft. of working space, will be devoted to the manufacture of appliance controls.

Approximately 100 employees will work in the new building, with George Greenmayer, works manager at the Grayson-Greenmayer Appliance Controls Division formerly located at Monrovia, continuing to manage the transferred division. Richard Grayson has been appointed head of the Division, and his father, John Grayson, a pioneer in the field of automatic controls for home appliances, will remain at a new research laboratory in Monrovia as director of research and development.

Coote names Beverly as Gorman-Rupp Outlet

THE CHAS. W. M. COOTE CO., West Orange, N. J., eastern representative for the Gorman-Rupp Co., Mansfield, Ohio, announces the appointment of Ben Beverly Equipment Co., Long Island City, N. Y., as distributor to independent oil men of Gorman-Rupp pumps and Coote Clearflow filters for trucks and bulk plants.

The Beverly company will distribute the products in northern New Jersey, Long Island and metropolitan New York.

Eureka Williams adds two Directors; reappoints Officers

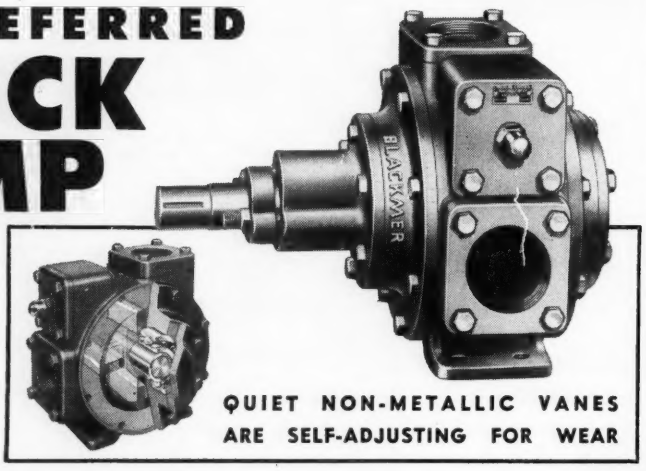
TWO NEW MEMBERS were elected to the board of directors of the Eureka Williams Corp., Bloomington, Ill., and all officers were reappointed at its annual meeting. Denis Regan, advertising manager of *Colliers* magazine and David Turk, partner in the New York investment firm of Diamond, Turk & Co., were the two members added to the board of directors.

Re-elected to the board were: H. W. Burritt, president of the corporation; L. A. Casler, executive vice-president; A. L. McCarthy, executive vice-president of the Eureka division; J. K. McClintock; F. A. Daum; H. Diamond; O. A. Glazebrook, Jr.; W. A. Matheson; M. L. Schafer; F. Tuttle and W. A. Maron, who also was named chairman of the board, a newly-created post.

Other officers reappointed, in addition to Messrs. Burritt, Casler and Mc-

THE PREFERRED
TRUCK
PUMP

TANK TRUCK OPERATORS PREFER BLACKMER'S PERFORMANCE



QUIET NON-METALLIC VANES ARE SELF-ADJUSTING FOR WEAR

BLACKMER
FACTORY REPRESENTATIVES
IN MAJOR CITIES
AND
SALES AND SERVICE JOBBERS EVERYWHERE
"READY TO SERVE"

CALL YOUR BLACKMER REPRESENTATIVE

Superior performance backed by reliable service wins for Blackmer the approval of engineers and users.

Quiet operation, high capacity, compact design and rugged construction make Blackmer Truck Pumps a wise choice for you.

Sustained efficiency and long, trouble-free service help keep operating cost at a record low.

READ WHY OWNERS PREFER BLACKMER

Detailed design, construction, capacity and dimension data are listed in Bulletin TP3. Write for a copy and get the RIGHT PUMP FOR YOUR NEED.

BLACKMER PUMP COMPANY • GRAND RAPIDS, MICHIGAN

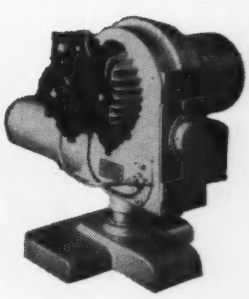
GET A BIGGER SHARE OF THE OIL BURNER BUSINESS

with the complete Nu-Way LINE

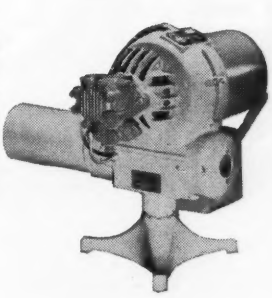
Wide selection of models in sizes for both domestic and commercial use . . .

"Sales made easy!" That's the report you get on the Nu-Way line. Nu-Way Oil Burners are backed by hard-hitting consumer advertising in the leading home publications . . . plus a wide variety of selling aids including newspaper mats, direct mail pieces, booklets and catalogs. And Nu-Way's exclusive patented engineering features help clinch the sale when the prospect comes to "look."

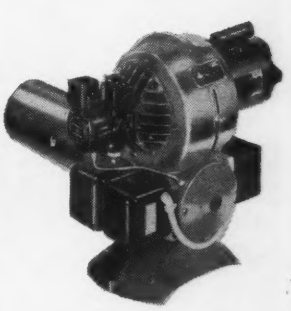
NU-WAY MODELS CO-2 and CO-6 — Designed to burn the modern catalytically-cracked oils. New combustion head that is really simplified in design provides easier ignition—higher efficiencies. Fuel burning capacities: CO-2 — .75 to 2 gal. per hour; CO-6 — 2 to 6 gal. per hour.



NU-WAY MODELS XL-2 and XL-6 — Equipped with Patented Air Control for top overall efficiency. Designed for use in small homes. Fuel burning capacity: XL-2 — .75 to 2 gal. per hour; XL-6 — 2 to 6 gal. per hour.



NU-WAY MODELS XL-12 and XL-20 — Features new electronic control for greater combustion safety. Designed for use in apartments, factories and other buildings requiring large capacity oil installations. Fuel burning capacty: XL-12 — 6 to 12 gal. per hour; XL-20 — 12 to 20 gal. per hour.



WRITE TODAY! *For new folder containing complete details on the Nu-Way line of Oil Burners.*

THE NU-WAY CORPORATION
ROCK ISLAND, ILLINOIS

Sold Through Jobbers and Distributors. Also Special Applications for Furnace and Boiler Manufacturers.

OIL HEATING EQUIPMENT

"AUTOMATIC OIL HEAT EXCLUSIVELY SINCE 1921"

Carthy, were: O. E. Nesmith, manufacturing vice-president; R. C. Osborn, engineering vice-president; G. W. Phister, secretary; W. T. Creed, comptroller and H. L. Kent, assistant treasurer.

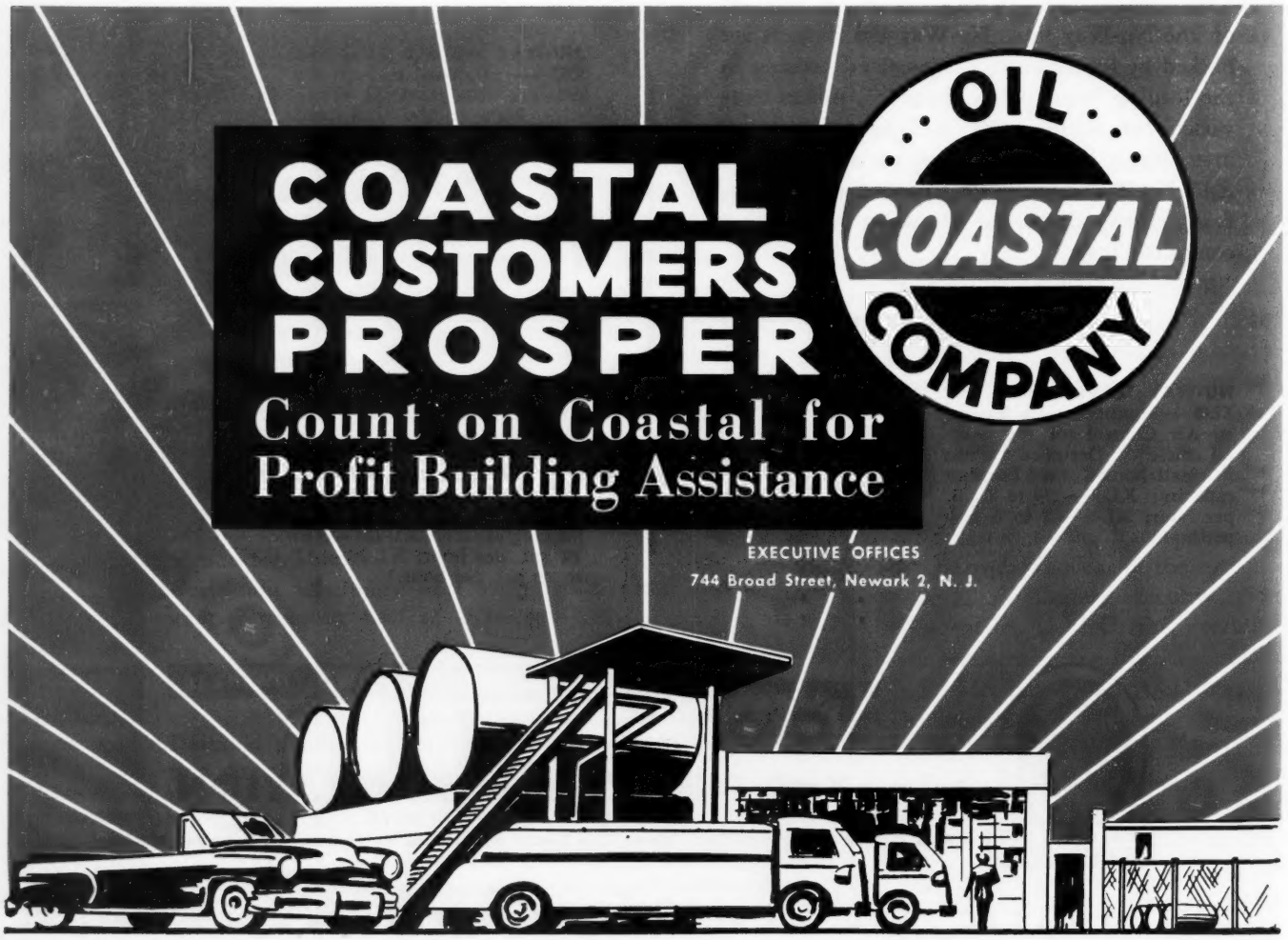
Future annual meetings will be held on the last Tuesday in April, beginning next year, implementing a previous decision to change operations from a fiscal to a calendar year basis.

Sid Harvey of New Jersey moving to larger Quarters

HENRY WOLLWORTH, president, Sid Harvey of New Jersey, has revealed purchase of the 2-story brick building at 88-90 Stuyvesant Ave., Newark, N. J., which the company will occupy early in January 1952. The new building, with approximately 8,000 sq. ft. of floor space, more than doubles former facilities at 103 Lindsley Ave.

The larger space will enable Sid Harvey of New Jersey to expand motor repair facilities and provide ample room for serving automatic heating dealers in the area.

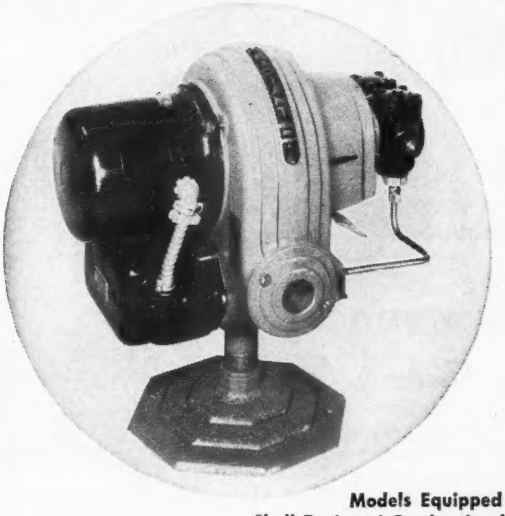
Twelve *high-capacity Fulflo filters, a product of Commercial Filters Corp., Boston 27, Mass., are used on this loading rack of the Rock Island Refinery, Indianapolis, Ind., for the filtration of gasoline, kerosene, Diesel fuel and heating oil at the time of delivery to tank cars or tank trucks. The filters use the same type of Honeycomb filter tube that is incorporated in the FB4 and FB6 Fulflo oilburner filters and each is reported capable of filtering five million gallons of heating oil before renewing the filter cartridges.*



SELL MORE OIL BURNERS . . . CUT SERVICING COSTS

Radiant

THE SERVICEMAN'S BURNER



Models Equipped with Shell Designed Combustion Head.

INCREASE SALES & UNIT PROFIT

Radiant performance is equal to the highest price burner — yet Radiant burners are priced to meet competition.

PLUS

- Low Upkeep
- Factory Guarantee
- National Distribution in Protected Territories
- Easy Installation with Minimum Servicing

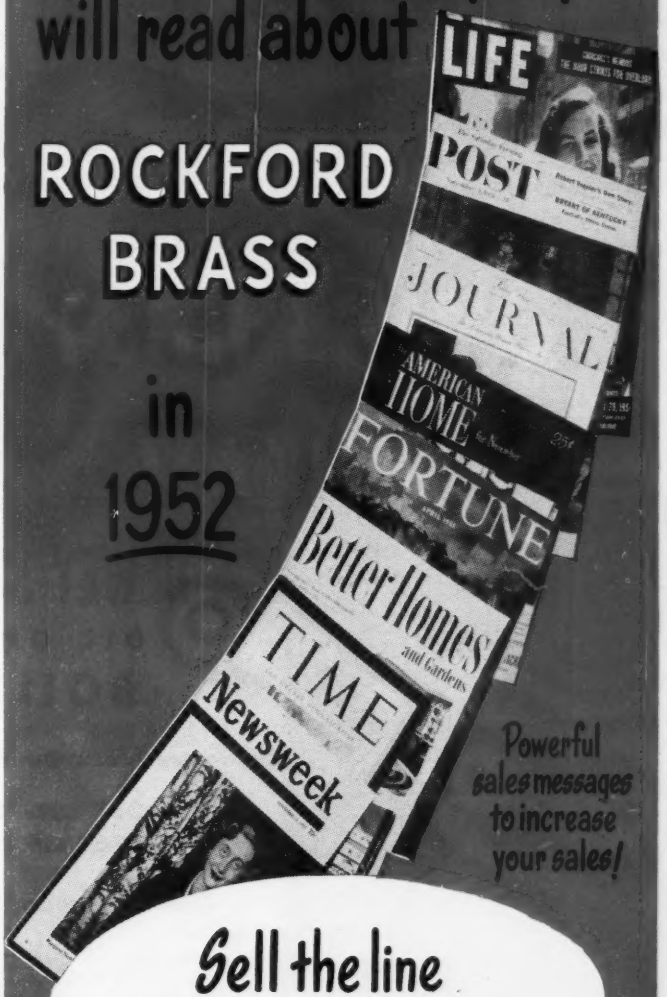
Write for The Biggest Oil Burner Sales Story Today!

RADIANT UTILITIES CORP.

8815 18th Ave., Brooklyn 14, N. Y.

RADIANT OIL BURNER

Over 92,000,000 people will read about ROCKFORD BRASS in 1952



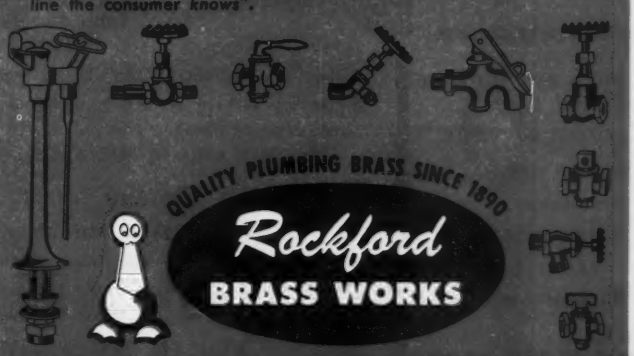
Powerful sales messages to increase your sales!

Sell the line the consumer knows!

Millions of readers of leading National Magazines are being referred to their licensed plumber in the 1952 Rockford Brass Works advertising campaign. Consistent, monthly messages to build sales for the licensed plumber.

Here is a profitable, volume building line — consumer accepted and preferred — advertising to build your sales — backed with over 60 years of experience in manufacturing Quality Plumbing Brass products and sold through plumbing wholesalers.

Tie in with this program for new customers and greater profitable volume. Write for complete catalog information and "sell the line the consumer knows".



QUALITY PLUMBING BRASS SINCE 1890

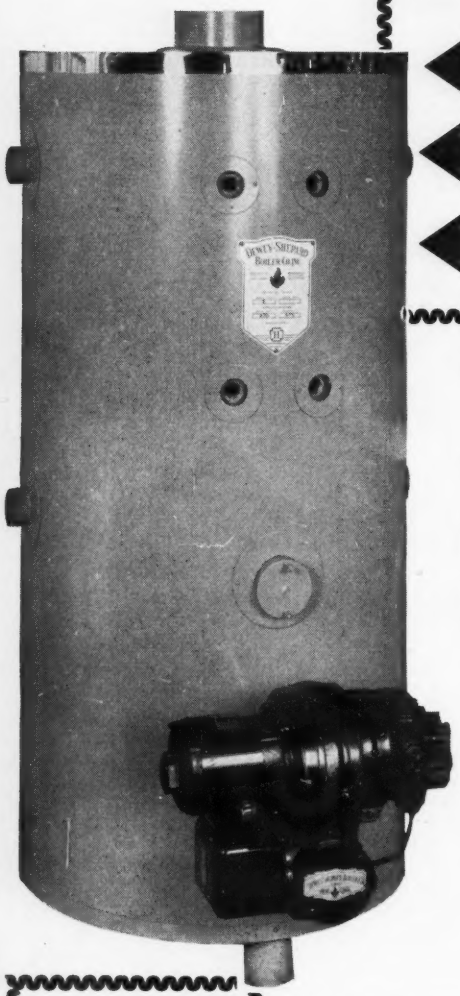
Rockford BRASS WORKS

ROCKFORD · ILLINOIS

Heil Booklet marks fiftieth Anniversary

"THE FIRST FIFTY YEARS" is the title of a commemorative booklet prepared by the Heil Co., Milwaukee 1, Wis., on the occasion of its fiftieth anniversary in business. Copies have been sent to Heil distributors and additional copies are available on request. Seven pages of the 20-page booklet are devoted to individual product lines the company makes, including automatic heating equipment and truck tanks for petroleum transport. Remaining pages present a resume of company history, policy, facilities and other details. Several full color illustrations and other pictures present the Heil story.

The text includes a brief review of the company's development from the time Julius P. Heil founded it in 1901 for the manufacture of steel storage tanks and wagon tanks. Today the Heil Company produces six distinct lines in two Milwaukee plants and a third in Hillside, N. J.



Ready to Install

DEWEY-SHEPARD

OIL OR GAS

BOILERS

YOU GET 80% OR MORE HEAT ABSORPTION WITH

the Tube within a Tube

This "Tube within a Tube" action results in pre-heating the incoming cold water before it comes in contact with the metal surfaces to which radiant heat is being applied. By this application you offer your customers many advantages such as:

- LESS FUEL USED
- LOWER INSTALLATION COST
- NO LIME—NO SCALE
- 20% LESS HEAT LOSS THROUGH THE STACK
- NO EXPANSION, CONTRACTION OR CONDENSATION
- CLEANEST HEAT POSSIBLE
- SUFFICIENT HOT WATER AT ALL TIMES
- CAPACITY 95,000 TO 1,000,000 BTU

Easy application to all hot water systems.

- TWO PIPE
- ONE PIPE
- CONVECTOR
- PANEL & RADIANT
- SUMMER-WINTER HOOK-UP

In the "Tube within a Tube" boiler there is one square foot of heating surface for every gallon of water. This method transfers every possible unit of heat to the water and results in EFFICIENT AND ECONOMICAL OPERATION.

Write Today — *Get descriptive literature, prices and other information.*

DEWEY-SHEPARD

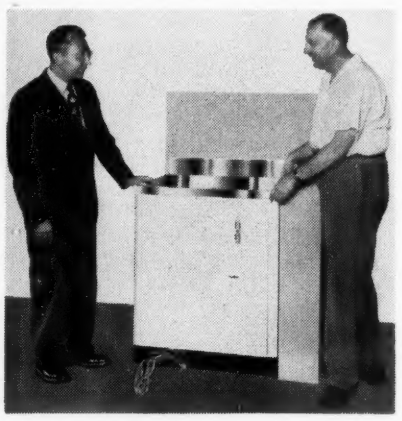
BOILER COMPANY, INC.

1311 NO. CAPITOL AVENUE • **INDIANAPOLIS 4, INDIANA**

York-Heat Units for new Levittown Homes

THE CONTRACT to furnish 5,000 oil-fired boiler-burner units for the new Levitt housing development in Bucks County, Pa., has been awarded to York-Shipley, Inc., York, Pa., with production of the units scheduled to start March 1. This is the fourth contract York has concluded with Levitt, and in the last four years more than 11,600 York-Heat units have been installed in the Levittown, N. Y. project. York will also furnish oil storage tanks, fabricating them in its own factories.

A table-top type boiler unit will be built for the new homes, with the complete burner, expansion tank, circulator, domestic hot water coil, diagonal tubular boiler and controls housed inside a cabinet and installed in the kitchen. Units will have a stainless steel top and splashboard extending up 42". Dimensions are 25" deep, 30" wide and 36" high, with sound engineering incorporated for quiet operation.



C. H. Neiman, *vice-president in charge of engineering and H. L. Mohn, chief design engineer, York-Shipley, Inc., study the new table top boiler to be installed in the new Levittown development in Bucks County, Pa.*

Three versions of the unit are to be produced. For the small two-bedroom Budgeteer home, a left-hand boiler with top smoke outlet will be used, while the Levittowner three-bedroom house will have a standard right-hand boiler. For the largest house, the Country Clubber, three-bedroom, two-bathroom model, a larger capacity hot water heating coil and baffling in the fire box will increase boiler capacity.

Save call-backs with

TACO TEMPERING VALVES

because they . . .

✓ **S-T-R-E-T-C-H TANKLESS HEATER PERFORMANCE**

✓ **GUARD AGAINST EXCESSIVELY HOT WATER**

Install Taco Tempering Valves to avoid complaints of "the water's too hot" or "the tankless heater doesn't give enough hot water." You also prevent high temperature water in dishwashers from baking food on dishes.

MINIMUM SERVICE PROBLEMS

Over a 12-year period less than 3/10ths of 1% of Taco Tempering Valves sold have been returned for all reasons.

YOU ALSO GET THESE EXCLUSIVE FEATURES

Two unions. Hermetically sealed element that will not tire, fatigue or corrode, and that successfully avoids the use of bimetal, bellows or volatile liquids. One piece element easily replaced in minutes. Biltin check valve for equalizing pressure. No cold water slippage.

ADJUSTABLE AND NON-ADJUSTABLE

Supplied in ½" and ¾" sizes in both adjustable and non-adjustable models. Type "A" is adjustable from 120° to 160° F. Type "B" non-adjustable is factory set to deliver water at approximately 135°-145° F. Larger sizes, 1", 1½" and 2" are available in the type "T" which are adjustable from 130° to 200° F.

Better Heating-Better with Taco

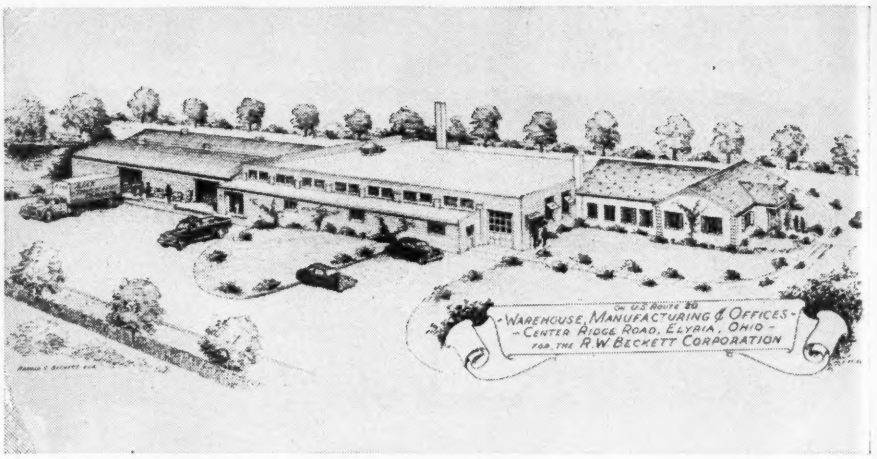
TACO HEATERS, INCORPORATED, 137 SOUTH ST., PROVIDENCE 3, R. I.

Morrison Steel expanding Buildings and Production

TO MEET increased civilian and defense production, Morrison Steel Products, Inc., Buffalo, N. Y., is rushing work on a million and a half dollar expansion program. The company is adding 120,000 sq. ft. of floor space and purchasing new equipment, besides adding more workers to its force.

Morrison moved to its present location in 1938, occupying a building of 90,000 sq. ft. at that time. Additions and expansions have boosted present production space to 350,000 sq. ft. The company was founded in 1912, to become a pioneer in the steel stamping industry. In 1945 it entered the domestic warm air heating field with a line of Mor-Sun pressed steel furnaces, added a line of Carry-All service and utility truck bodies in 1948 and last year introduced an all-steel overhead garage door.

The new addition is being erected by Shirley-Herman Co., general contractors. G. Morton Wolfe is the architect.

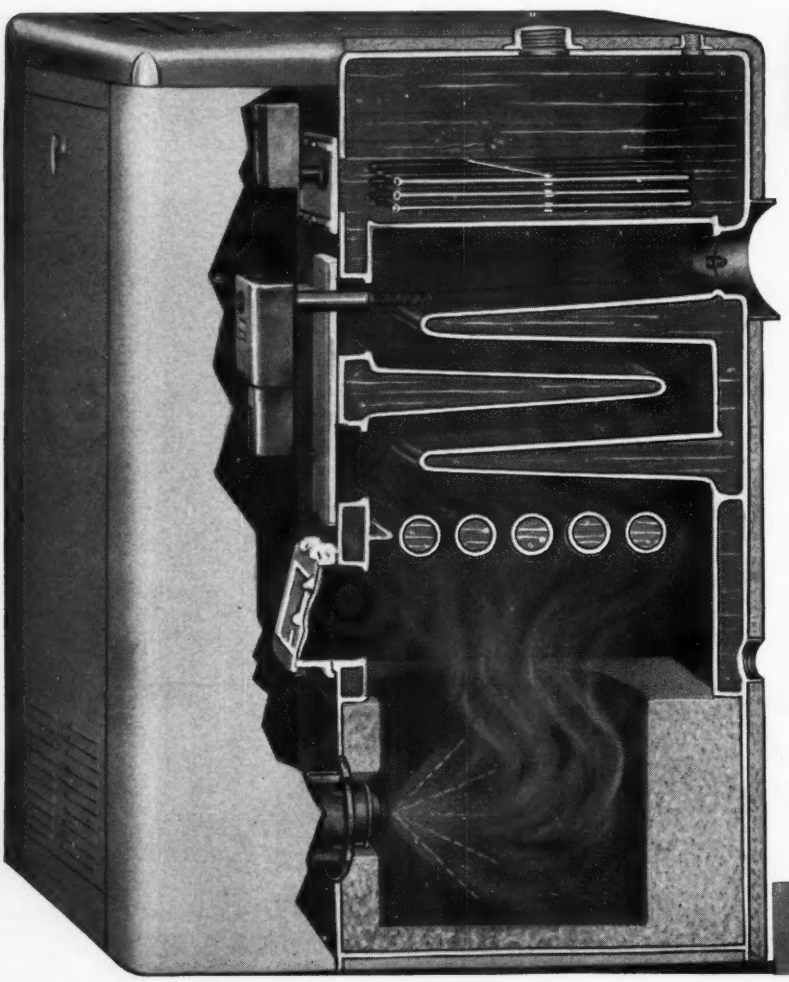


Architect's sketch *of new factory recently built by R. W. Beckett Eng. Corp., Elyria, Ohio, for the manufacture of Commodore high pressure oil-burners. Located on a 27-acre tract, a mile east of the Elyria city limits, the establishment contains factory, warehouse and office facilities under one roof. The company was founded in Elyria in 1937 and its present officers, R. W. Beckett, president, and Stanton Fitzgerald, vice-president, reveal that rapid increase in sales necessitated the building expansion. For three consecutive years, they report, sales have more than doubled the previous year.*

McDonnell holds School for district Representatives

A SPECIAL TRAINING SCHOOL by McDonnell & Miller, Inc., Chicago, Ill., for its district representatives to unveil the McDonnell No. 201 Temperature Relief Valve for hot water tanks and heaters was held in November at the research laboratory of the company's Chicago plant.

The No. 201 is an automatic reseating type valve with test lever. Actual



Steel HEATING UNIT

5 YEAR GUARANTEE AGAINST LEAKS

Boilers and boiler-burner units engineered for dependability

"A Proven Success!"

Dealers! Write for information, data, and price sheets.

We have a few exclusive territory franchises available. Wire or write for full details.

Magic-HEAT

Licensed Under U.S. Patent

A PRODUCT OF MARIETTA METAL PRODUCTS CORP. MARIETTA, PENNA.

IT TAKES MORE THAN TOOLS TO CUT SERVICE COSTS

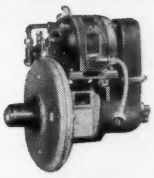
TRY THIS PLAN Install *ONE* **REXOIL**... SEE how **REXOIL'S** dependable design cuts service costs to a minimum and adds dollars to your profit column. By installing *one* **REXOIL** you'll also *see* other savings. There will be cheaper installation costs . . . greater initial profits . . . and sincere customer satisfaction. We could talk till blue in the face, — but only by observing a **REXOIL** in action can *you* see its *real* value. *So be fair to yourself* . . . install a **REXOIL** and SEE what real value **REXOIL** is!

WRITE TODAY . . . ORDER ONE REXOIL

REXOIL

Residential, Commercial and Industrial Oil Burners for #2 oil

Furnace and Boiler Units



Horizontal Rotary Oil Burner for Heavy Oils

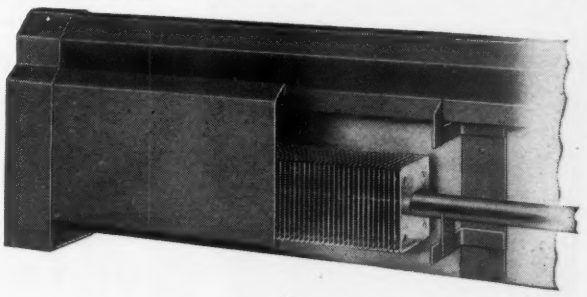
REIF-REXOIL, INC.
37 CARROLL STREET BUFFALO, N. Y.

low cost modern heat...

for NEW and OLD HOMES

The trend is toward radiant-ray baseboard heating because . . .

- ★ it's the most practical and *profitable* heating unit for new homes and remodeling installations.
- ★ low cost installation requires a minimum of structural alterations in remodeling jobs. All piping can be concealed.
- ★ temperatures remain constant with variations of as little as 3° between floor and ceiling. Cold drafts are reduced or eliminated.
- ★ eliminates old-fashioned, unsightly radiators. Gives complete wall-to-wall living space.
- ★ simplified installation; scientific heater design; uniform temperatures, produce measurable fuel savings.

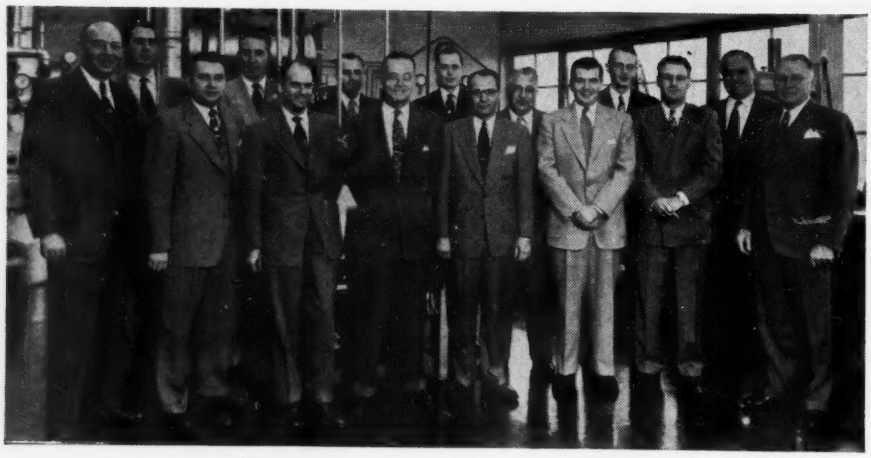


radiant-ray BRAND BASEBOARD HEATING

FREE OFFER:

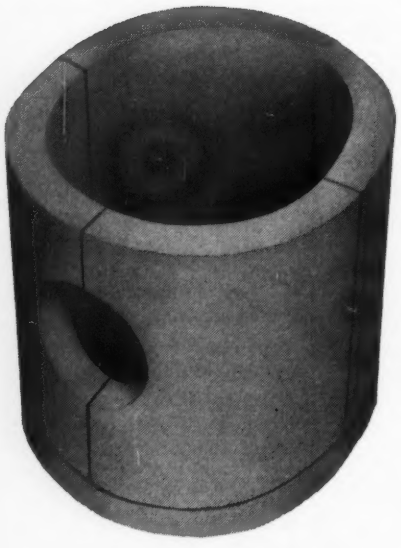
New, revised "EASY ESTIMATOR" . . . complete calculation data sheets to take the mystery out of estimating and installing. WRITE NOW!

RADIANT BASEBOARD PANELS, Inc.
900 West Main Street, New Britain, Conn.



Pictured here are field representatives *of McDonnell & Miller, Chicago, Ill., as they attended a special week's training school. Front Row (left to right): Nils Swanson, Chicago; Bert Behles, Chicago; Dick Berry, Boston; Jim Ramsay, New York; Jerry Flaherty, Milwaukee; Gene Mitchell, Chicago; Dick Flickinger, Chicago; E. N. McDonnell, President McDonnell & Miller. Back Row (left to right): Marshall Morton, Vancouver, B. C.; Bill Gleeson, Los Angeles; John James, Chicago; Don Johnsen, Cleveland; Leo Kmiecik, Chicago; Jim Platt, Indianapolis; Andy Morton, Calgary, Alberta.*

Do Your PRESENT PRECAST CHAMBERS Give You ALL these Advantages?



1. Low initial cost.
2. Low installation cost — only 5 pieces to assemble.
3. K-factor equal to insulating brick.
4. Excellent performance with either high or low pressure burners.
5. Scientifically packed to prevent breakage.

. . . if the answer is NO -- contact us NOW!

KOLB REFRACTORIES COMPANY Meadow & Jackson Sts. Philadelphia, Penna.

KolbKast Insulated Chambers

tests were conducted to show the accuracy of the thermostatic element used in the valve and to demonstrate the control of tank temperatures that can be achieved by passing the hot water service flow through the valve.

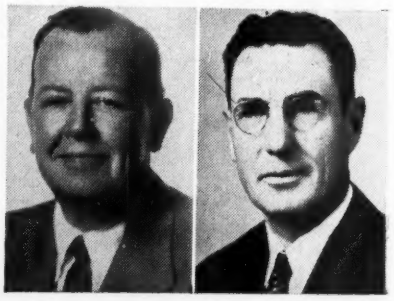
American-Standard Reorganizes field Sales territories

A REORGANIZATION of its sales force was instituted by American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa., creating two additional supervisory sales districts, six new sales offices and promotions of 13 men.

The newly created sales districts East Central and South Central are to be managed by J. A. Hickman, former manager of Atlanta sales office, with headquarters in Cleveland, and L. L. Graves, former manager of the Denver office, who will direct operations from Kansas City, Mo.

For the six sales offices Donald E. Sander will manage the New Orleans office; George W. Palmer, Cleveland; Robert F. Henderson, Omaha; L. R. Graves, Long Island, N. Y.; Albert J. Ellison, Jacksonville and Robert G. Holmes, Salt Lake City.

Five other men who received pro-



Hickman Graves

Tripl-ife Flo-Warm Furnace

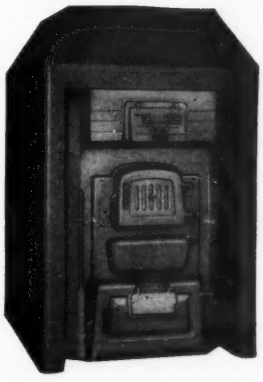
Gas Forced Air Flo-Warm Furnace

Oil De-luxe Flo-Warm Furnace

THE WILLIAMSON HEATER COMPANY

Complete Line

WARM AIR HEATING and WINTER AIR CONDITIONING



Tripl-ife Square Cased Gravity Furnace

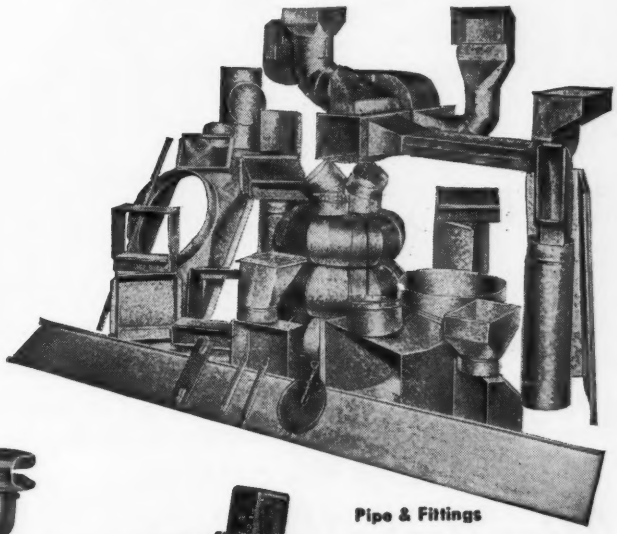
"HEAT TO YOUR HEART'S CONTENT"

Gas, Oil, or Coal—there is a Williamson Warm Air Furnace for any size installation. Beautifully styled, built for life-time service, and designed for fuel economy, the models shown represent 60 years of research—and dealer satisfaction. For greater sales, easier installations, more enthusiastic customers and bigger profits investigate the Williamson Complete Line. Write for details—

THE WILLIAMSON HEATER COMPANY
Dept. FO-1, 4558 Marburg Ave.
Cincinnati 9, Ohio

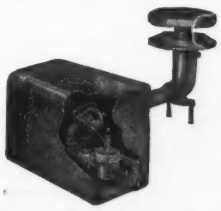
Tripl-ife Round Cased

Gas Gravity Furnace



Pipe & Fittings

Oil Hi-Boy Furnace



Gas Burner

Oil Burner

Stoker

motions in the expansion move were: John E. Huey succeeding Hickman as manager of Atlanta; Karl H. Smith replacing Graves in Denver; Frederick R. Dannies, manager of Milwaukee, while Ross E. Bishop was named assistant manager of Minneapolis and Howard A. Steiger assistant manager at Newark.

Perfection Salesmen meet in Cleveland

PERFECTION STOVE CO., Cleveland 4, Ohio, held two sales conventions in Cleveland last month to acquaint its salesmen with the company's 1952 appliance line, to explain its advertising and sales promotional plans for the coming year and to outline the company's 1952 methods and merchandising program.

Mr. L. Bushfield, sales manager, addressed Perfection Stove salesmen from the United States and Hawaii at their convention held in the Hotel Cleveland, Dec. 17 to 21. Perfections' sales managers, representing all seven regional offices met at a three day preconvention meeting, Dec. 13 to 17.

Included in the list of 1952 products shown were six new oil space heaters, a line of kerosene ranges and cook stoves and oil water heaters. During the convention, a new development in the control of warm air distribution was demonstrated.

Maintenance Courses begun by Brown Instruments

THE FIRST COURSES this year in instrument maintenance and repair held by the Brown Instruments Div., Minneapolis-Honeywell Regulator Co., Philadelphia, Pa., got underway at the Brown School on January 7. The schedule will include studies in such subjects as pneumatic control and transmission, flow meters, thermometers, pressure gauges and hygrometers, electrically-operated automatic controls, resistance thermometers, CO_2 and analygraphs.

As in the past, a large part of the six months of training will be for the benefit of Honeywell customers men, with other periods to be held for training Honeywell men, who will be assigned to field sales and service staffs when they have completed the courses. M. J. Ladden is chief instructor and explains the schedule will be divided into study periods of varying lengths, including a 13-weeks comprehensive course from February 11 to May 9. Other courses are being held from January 7 to June 27, with special courses expected to be held for government engineers.

Silent Sioux Catalog covers entire Line

A CONSOLIDATED CATALOG, prepared by Silent Sioux Oil Burner Corp., Orange City, Iowa, contains information on its entire line of gas and oilheating equipment. It includes photographs and specifications on different types of space heaters and accessories available to be used with them, along with similar information on conversion vaporizing oilburners.

Silent Sioux forced circulation warm air furnace and oilfired wall furnace also are described, with copy pointing out design and operating features and cut-a-way photographs used to illustrate construction.

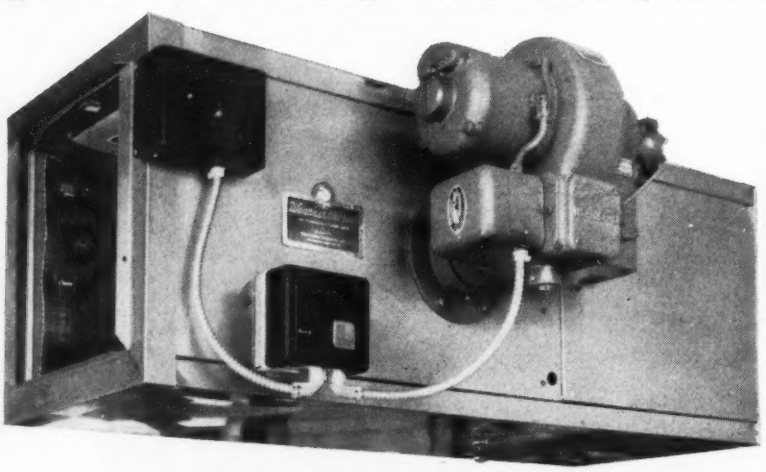
WEATHERTHERM DIRECT-FIRED OIL HEATERS

LO-BOY MODEL SUSPENDED UNIT HI-BOY MODEL

Domestic Units 80,000 To 450,000 B.T.U.—Industrial 400,000 To 2,000,000 B.T.U.

Each Domestic unit will be shipped assembled, the oil burner being shipped separately. Model AL Flanged Burner—Supplied on all Domestic units.

SUPERIOR CONSTRUCTION



QUIET OPERATION

ALSO Domestic and Industrial Conversion Oil Burners 1 to 35 G.P.H.
Steel Boiler-Burner Units—3 Pass Horizontal or Single Pass Vertical

WRITE FOR NEW CATALOG

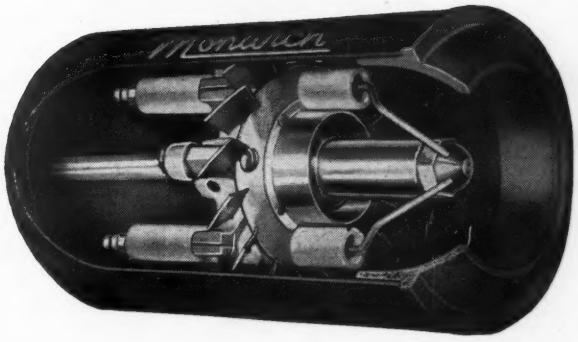
Weatherall Engineers

INCORPORATED
387 CHARLES STREET, PROVIDENCE 4, R. I.

MANUFACTURERS OF QUALITY HEATING PRODUCTS SINCE 1928

..... MONARCH .....
LEADS AGAIN

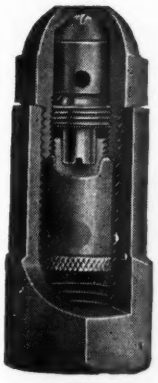
Have you tried THE NEW G81 COMBUSTION HEAD?



- **Balanced, clean and efficient fires from .60 to 2.00 gph.**
- **As easy to install as an ordinary Air Cone and Stabilizer.**
- **No "adjustments" to tinker with or get out of order.**
- **Rugged, all metal construction.**
- **Costs less than any other "Head."**

Circular #12251

MONARCH NOZZLES
Best—Buy—Fire Test



Having Nozzle trouble? Fires crooked? Lop-sided? Streaky? Smoky? Take a tip from Monarch ("R" Series solid or "NS" Hollow Sprays) and see the difference.

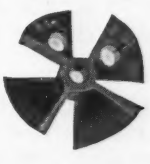
Circular #4150

MONARCH "ANTI-PULSATION" EQUIPMENT

Want to cure some of those jobs that Rumble, Bump or Pulsate? You can probably do it by installing a recommended Monarch Nozzle, Cone and Stabilizer Combination.

Circular #62250

STABILIZERS **AIR CONES**



Write for Catalog D

MONARCH MANUFACTURING WORKS, INC.

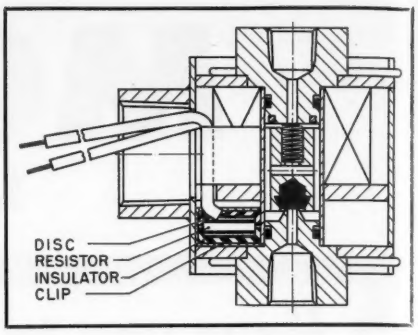
2503 E. Ontario St. **Philadelphia 34, Penna.**

European Distributor: **A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland**

New Products

Skinner V2-500 solenoid Valve for domestic Burners

TYPE V2-500 time-delay Skinner solenoid valve has been designed for domestic oilburner equipment, to be used as an integral part of new equipment or added to existing installations. It is a 2-way, normally closed valve, constructed of steel, with all parts plated to resist corrosion. It has a soft sythetic seat, seals to prevent leakage and is spring-loaded for positive closing. Pressure rating is 115 psi maximum, with its continuous-duty coil rated at 9 watts maximum. Both ports are 1/8" female NPT.



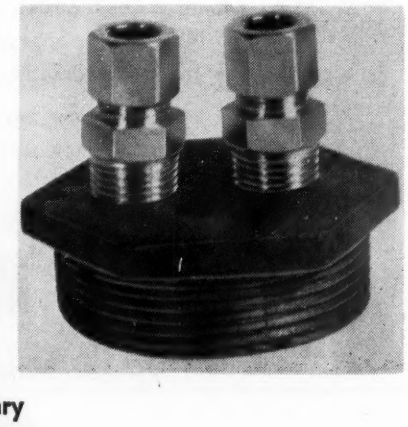
All mechanism is incorporated within the valve body, including combination shut-off and time-delay features. A complete valve cycle is accomplished thus: After the burner blower starts, there is a time-delay of 5 to 6 seconds before the valve opens to release oil; burning continues until oil shut-off is actuated by the room thermostat; the valve closes instantly when the thermostat is satisfied and the burner motor stops. Adequate air at the start of the combustion cycle is assured, eliminating the major cause of incomplete combustion and soot conditions.

Made by: Skinner Electric Valve Div., Skinner Chuck Co., South Norwalk, Conn.

Universal Valve has duplex tank Bushing

UNIVERSAL TANK BUSHING #750 is a duplex model for suction and return lines. It has a pipe thread tapping on the underside of the suction opening to permit threaded pipe installation directly into the tank, has a cast-iron body and standard compression (slip-thru) brass fittings.

The bushing is offered as a means of speeding up installation time and reducing costs by combining the suction and return lines in the same tank opening. Available sizes are 3/8" x 3/8"



PROVEN IN HEAVY INDUSTRIAL OILS

Pet-Re-Nol
FUEL OIL CONDITIONER
now packaged for home use

PET-RE-NOL has been successfully used for years by major industrial and commercial institutions and oil companies from coast to coast. PET-RE-NOL is a concentrated chemical compound which readily mixes with fuel oil or kerosene, disperses the sludge and absorbs water to produce a combustible solution. Now PET-RE-NOL is available to you in quart cans.

More profits for you . . . sell PET-RE-NOL in quarts to your customers.

HERE'S WHAT PET-RE-NOL DOES...

PET-RE-NOL REDUCES FUEL COSTS by burning off sludge, keeping burners free of carbon and produces a hotter flame and cleaner fire.

PET-RE-NOL KEEPS HOME CLEANER by reducing smoke and soot, and decreases oil odors.

PET-RE-NOL CUTS REPAIRS by keeping oil lines clean, removing carbon and soot—prevents rust and corrosion.

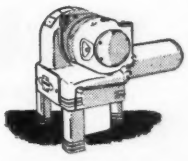
PET-RE-NOL PAYS FOR ITSELF in fuel savings—is used and recommended by oil companies, industrial users and servicemen.

PET-RE-NOL IS ALSO AVAILABLE TO OIL DISTRIBUTORS IN BULK

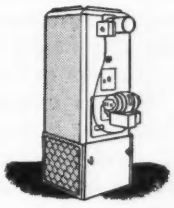
NORMAN CHEMICAL COMPANY
470 Cleveland Ave. No., St. Paul 4, Minnesota
Please send me a FREE sample of PET-RE-NOL and complete information.
I am a ☐ *oil burner serviceman* ☐ *oil dealer* ☐ *jobber*
Name _____
Address _____
City _____ *State* _____

I got more fuel-oil customers when I took on

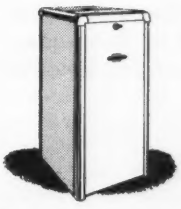
GENERAL MOTORS DELCO-HEAT



Delco-Heat Rotopower Burner—Pressure atomizing oil burner is economical and efficient. Only burner made with all moving parts contained in one compact, sealed unit... an exclusive Delco-Heat selling feature.



This OPC Oil Conditionair, with basic two unit design, is ideal for utility room, closet or basement installations. Three sides of the unit are clear of flue outlet, controls, etc., for easy installation in recessed areas. Capacity: 75,000 Btu output.



'S' Boiler for radiant heating systems – or conventional steam or hot water systems. Fired by the famous Delco-Heat pressure atomizing oil burner, it is unmatched for dependable service.

In oil-fired heating equipment there is no line more complete than DELCO-HEAT.

The demand for Delco-Heat—built and backed by General Motors – is growing by leaps and bounds. People everywhere recognize the extra quality of this competitively priced equipment, and know that Delco is a brand name they can trust.

The fuel oil dealer who sells Delco-Heat not only can increase his heating equipment sales volume considerably, but will also find that dependable Delco-Heat operation insures steady fuel oil customers. Thus he profits in two ways.

It will pay you to get all the facts about the profit possibilities of a Delco-Heat franchise. Inquire now at the nearest Delco Appliance office, or mail the coupon below.

CLIP AND MAIL TODAY

DELCO APPLIANCE DIVISION
General Motors Corp., Dept. FO, Rochester 1, N.Y.
Please send me further information about:
☐ A Delco-Heat Franchise ☐ Oil-Fired Equipment

Name _____

Firm Name _____

Street _____

City _____ *Zone* ____ *State* _____

For a good deal - DEAL WITH DELCO

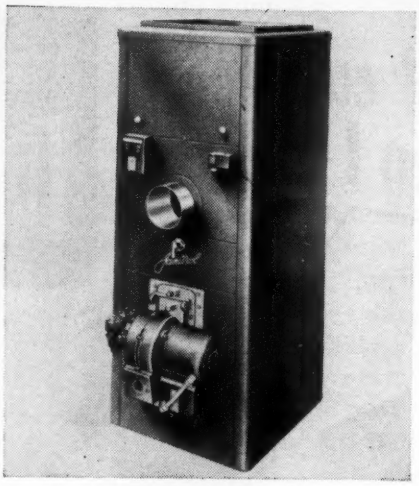
x 2"; ½" x ½" x 2" and ⅜" x ½" x 2". Tubing sizes are OD and other sizes may be furnished upon request.

Made by: Universal Valve Co., P. O. Box 444, Elizabeth, N. J.

Janitrol announces four convertible Conditioners

FOUR OILFIRED winter air conditioners have been announced to augment the Janitrol line. The units, fired with gun type oilburners, were designed to give owners the option to change to gas in areas where gas heating installations are restricted. A vertical model, 80,000 Btu/hr capacity, is available in up-flow and down-flow models, with two horizontal types, 70,000 and 100,000 Btu/hr capacity, rounding out the oilfired line.

The gun burners are flange-mounted for easy access and inspection, with the units equipped with pre-fired refractory combustion chamber liner. Other standard items include a quiet blower assembly, adjustable for continuous air circulation and a heavy gauge-steel heat exchanger. Extended



casings can be furnished for the horizontal units as optional extras. Specification data is published in Bulletin JS-176.

Made by: Surface Combustion Corp., Toledo, Ohio.

Fireye System FP-4 employs Firetron Tube

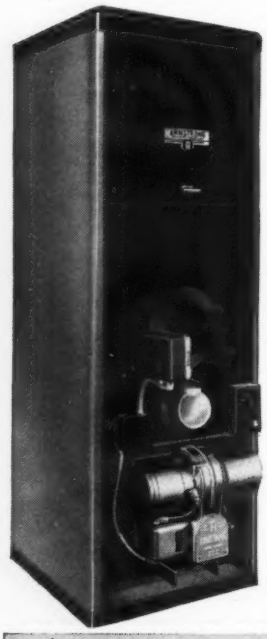
FIREYE SYSTEM FP-4 photoelectric flame failure safeguard has been announced for protection of semi-automatic or manually-operated gas, oil and combination gas/oilburners. It consists of an electronic control and Firetron scanner that "sees" all flames and cuts off fuel when the flame fails. It can be wired also to sound an alarm. The scanner is installed in a short length of standard ½" pipe, located where its sensitive cell can scan the flame area, replacing both flame rod and photoelectric scanner.

The electronic control is housed in a sturdy dust-tight steel case, containing power supply and relay system. The housing is mounted on the control panel and features plug-in construction for simplified replacement and maximum accessibility. The system operates on 115/208/230 volts, 50/60 cycles.

Made by: Combustion Control Corp., 77 Broadway, Cambridge 42, Mass.

Autocar develops new light-weight Tractor

AUTOCAR announces development of a new light-weight tractor in the heavy-duty field, one of less than 10,000 lbs. with a gross hauling capacity



New! 80,000 BTU OIL-FIRED COUNTERFLOW BY ARMSTRONG

Here's the 80,000 BTU oil-fired counterflow winter air-conditioner you've been waiting for . . . produced by Armstrong! Brand new . . . designed specifically for the increasingly popular slab floor or crawl space construction in the basementless one-floor-plan home. Return air is drawn into the top of the unit; heated, filtered air is forced out through the bottom into the underfloor duct system.

Unusually quiet operation makes this unit ideal for installation in a closet or utility room surrounded by living quarters. Equipped with the Armstrong D4 oil burner, especially designed for efficiency at low firing rates. Compactly built; built-in filter rack; two-tone blue baked enamel finish. Easily installed.

There's profit in this unit—it fits today's market like a hand in a glove. Write for specification sheet S-24.

FOR GAS TOO. A special gas burner has been designed by Armstrong, and is listed by AGA for use in this unit. Thus the furnace can be converted from one fuel to another at any time. BTU output is the same with either fuel.

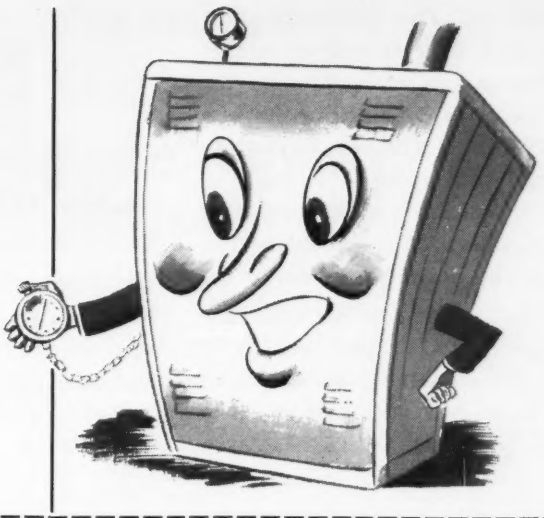
Armstrong's two huge plants serve both sides of the continent quickly, economically. A warehousing distributor, with a complete Armstrong inventory, is within a stone's throw of everywhere. Wherever you are, Armstrong's distribution system is set up to serve you. It's better, quicker, more profitable . . . for you.

ARMSTRONG FURNACE COMPANY
COLUMBUS, OHIO — DES MOINES, IOWA

Please address Dept. FO at our plant nearest you.

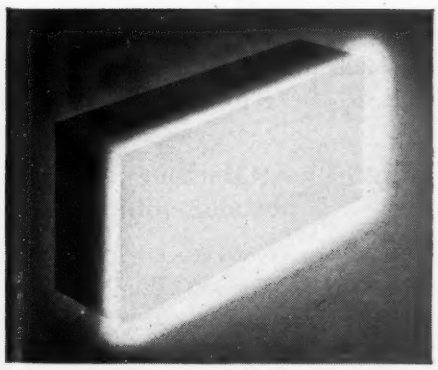
Warm Air Furnaces—Gas, Oil, Coal—a Complete Line

"J-M Insulating Fire Brick sure reduces my heat-up time!"



"It's my 'skin-heat-in-seconds' that gets you on the job so fast!"

Build better fireboxes with this insulating fire brick that saves up to 10% on fuel



"Skin-heat-in-seconds" of J-M Insulating Fire Brick is demonstrated in this photograph. Within seconds after the burner goes on, the entire inside surface of the firebox becomes white-hot. Laboratory tests prove that this results in fuel savings up to 10%.

Here's a brick that will give any oil burner firebox a skin-deep curtain of white-heat intensity *within seconds!*

To your customers this means important fuel savings because fuel is not wasted heating the entire brick . . . as happens in the case of ordinary dense fire brick.

In addition, the use of J-M Insulating Fire Brick results in far less soot, smoke and odor. And its lightweight, cellular construction contributes substantially to quieter oil burner operation.

You'll find that J-M Insulating Fire Brick is easily installed . . . can be cut quickly with a hacksaw blade . . . can be used to build any shape or size firebox that is specified by the oil burner manufacturer.

The brick recommended for domestic oil burner fireboxes are: JM-20, JM-23, JM-26 . . . and for industrial use, JM-28 and JM-3000.

See your J-M Distributor for further information about these brick that heat up faster . . . or write Johns-Manville, Box 290, New York 16, N. Y. In Canada, 199 Bay Street, Toronto 1, Ontario.

For sealing against gas and air leaks, use J-M FIREITE* Asbestos Furnace Cement. For lining hearths of rotary burners — ready for use in 24 hours — use J-M STANDARD FIRECRETE* hydraulic setting refractory. *Reg. U. S. Pat. Off.

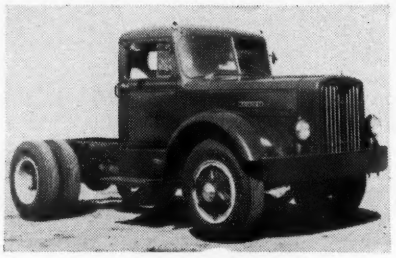
JOHNS-MANVILLE JM PRODUCTS

Johns-Manville INSULATING FIRE BRICK

For "Skin-Heat-in-Seconds" in Fireboxes

of 50,000 lbs. This gasoline-powered model, the C-65-T, is designed so that the front axle is set back under the engine and bears 5620 lbs. of the total chassis weight of 9390 lbs., leaving the rear axle with only 3770 lbs. The engine is Autocar's 447, developing 145 hp., with the 501, producing 165 hp., available as an optional extra.

Standard equipment includes ET rear axle, 10.00/20 tires and spoke wheels. The Autocar driver cab, with which it is fitted, is an extra. The C-65-T has a 142" wheelbase, Auto-



car transmission with helical gears in third, fourth and fifth speeds, pressed steel-alloy frame to which all brackets and cross members are bolted.

Made by: The Autocar Co., Ardmore, Pa.

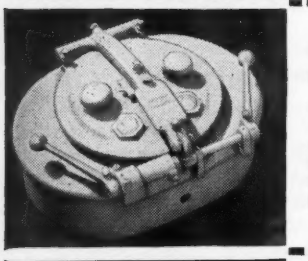
FOR QUICK-OPENING, TIGHT-CLOSING, POSITIVE-LOCKING MANHOLES

SPECIFY "Manholes by Philadelphia Valve"

no matter who builds your tank trucks

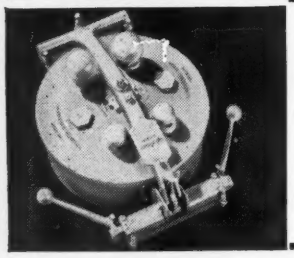
Standard Manhole

Size 12" x 16" with 6½", 8", or 10" fill opening. A slight turn of locking ring opens and closes cover.



Self-Closing Manhole

Size 12" x 16" with 10" fill opening. Self-closing, with positive locking device. Opened by raising lever on either side.



14" Diameter Self-Closing Manhole

For heavy fuel-oil tanks. Self-closing, with positive locking device. To open, lift either lock arm and raise cap.

Write the words "Manholes by Philadelphia Valve" into your order. These quick-opening manholes are absolutely tight. They surpass every fire underwriter's standard. They open and close easily and quickly. They are built to outlast the tank.

Each type of manhole is simple, strong, and foolproof. Covers are leakproof. Covers and plugs are of malleable iron or heat-treated aluminum. No cast iron is used. "5-in-1" vents automatically close if truck upsets, and will release under 6 lbs. pressure to prevent explosion in case of fire. Gaskets are easy to keep tight.

Philadelphia Valve manholes are standard with many major oil companies from coast to coast. Make them standard on *your* tank trucks, too!

Send for catalog 170 for descriptions and engineering drawings of all Philadelphia Valve Company products.

PHILADELPHIA VALVE COMPANY

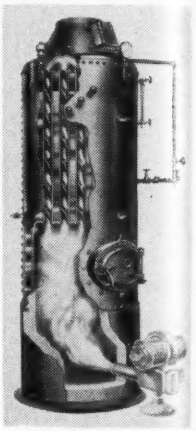
3413 Aramingo Avenue, Philadelphia 34, Pa.

Pacific Coast Distributors:

Oil Marketing Equipment Co., 325 Fremont Street, San Francisco 5, California
Howard Supply Co., 5125 Santa Fe Avenue, Los Angeles 11, California

McKee Steamboilerplants with automatic Oilfiring

MCKEE TYPE DO automatic oilfired Steamboilerplant is made in sizes from 1 to 7 hp, for pressures up to 50 lbs. psi. Units are shipped complete with a heavy steel jacketed, brick-lined combustion chamber and gun type oilburner mounted on the combustion chamber. Complete controls—low water fuel cut-off, stack safety switch, steam pressure and pump controls—are furnished. Boiler shell is of similar construction, with the lower head integral with the shell so there is no welded or riveted joint in the fire, and no longitudinal joint. The only joint is a welded one at the top of the boiler.

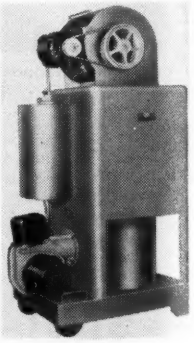


A type 3A-CGO is an automatic combination gas and oilfired boiler, available in sizes from 3 to 75 hp, pressures up to 250 lbs. psi. Changeover from one fuel to the other is done by flicking a switch. Units are shipped complete with the same type combustion chamber as the CO and a gun type oilburner with controls. Boiler is the mud drum type, designed to catch lime and scale forming ingredients in a zone not exposed to the heat of the fire.

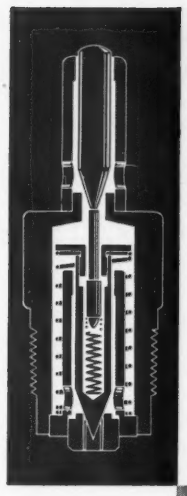
Made by: Eclipse Fuel Engineering Co., Rockford, Ill.

Fageol heat Machine is portable, oilfired Unit

FAGEOL HEAT MACHINE has been announced as a 140,000 Btu/hr oilfired unit for indoor or outdoor use. Model PW-140 is fired with a gun type burner, has its own self-contained 6 gal. fuel tank and is equipped with wheels for portability as a hand truck. Dimensions are 21" x 33" x 58"

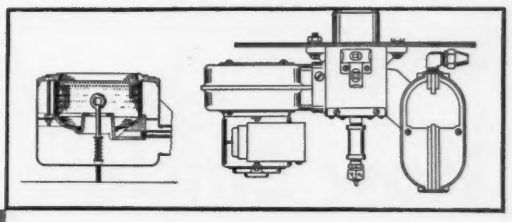


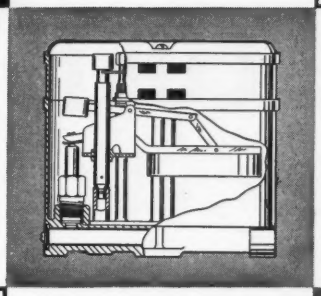
Plan your packaged small home heating units the proven miller way



Constant level valve has two inlet needles in tandem. A practically leakproof system.

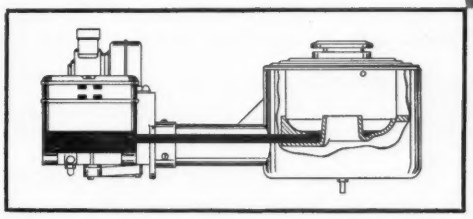
Easily leveled external spirit levels internal leveling bolt.





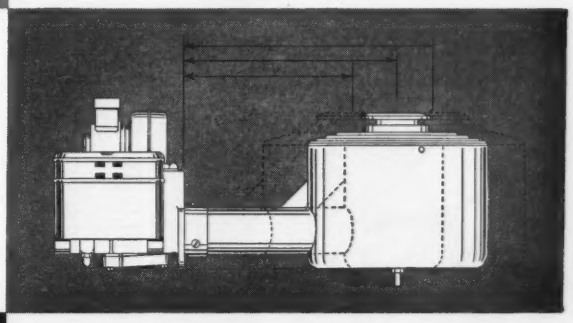
Fixed pilot and hi-fire. No field adjustment. Solid plastic float. It can't leak.

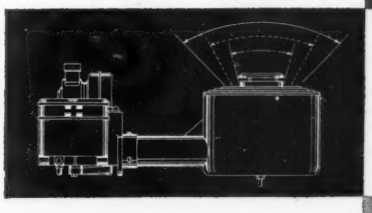
Automatic safety shut off and reset in Miller constant level valve. No manual reset required.



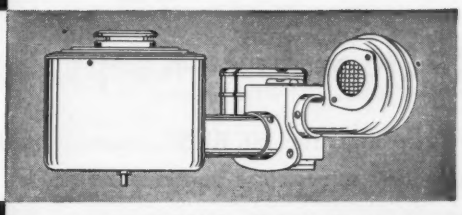
All parts accurately machined to give proper oil level in burner. Valve setting fixed in relation to pot. No field adjustment.

Burner made to right length, centered in combustion chamber.





Flame shape set for best efficiency... no hot spots.



Fixed air setting. No field adjustment.

It pays to plan your packaged units for small home heating at the drawing board . . . the proven Miller way.

Give your dealers these sure-fire sales advantages for more sales . . . more profits with the Miller model VMO burner and controls.

THE miller COMPANY

SINCE 1844

HEATING PRODUCTS DIVISION • MERIDEN • CONNECTICUT

ILLUMINATING DIVISION: Fluorescent, Incandescent, Mercury Lighting Equipment
HEATING PRODUCTS DIVISION: Domestic Oil Burners and Liquid Fuel Devices
ROLLING MILL DIVISION: Phosphor Bronze and Brass in Strips and Rolls

high. Weighing 245 lbs., the machine requires no flue or chimney.

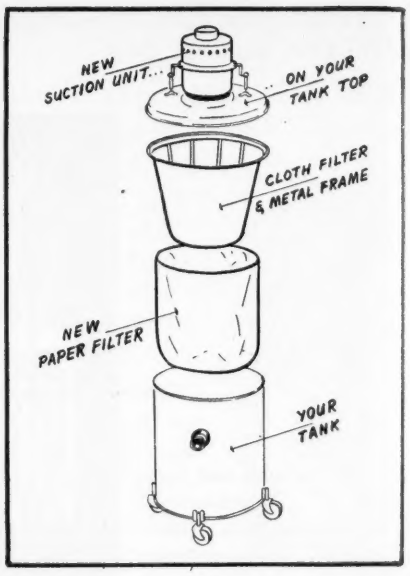
Heated air is sprayed from all sides of the unit across the floor, to create a 6 ft. high blanket of warm air so that it can be effectively located in the center of large areas. Model PW-140 is offered as a unit to supply comfortable heat in areas up to 3,000 sq. ft. of confined space or 1,600 sq. ft. of open space. A 200,000 Btu model, PW-200, also is available.

Made by: Fageol Heat Machine Co., 5725 Mt. Elliott Ave., Detroit 11, Mich.

Sootmaster filter Unit for furnace Cleaners

SOOTMASTER filter units have been announced to eliminate outside dirt bags on furnace vacuum cleaners. The unit consists of a multi-stage turbine fan motor and double protection safety filters. The turbine fan motor is installed on the tank tops of vacuum cleaners in place of the present suction unit and the filters fit inside the dust-collecting tank.

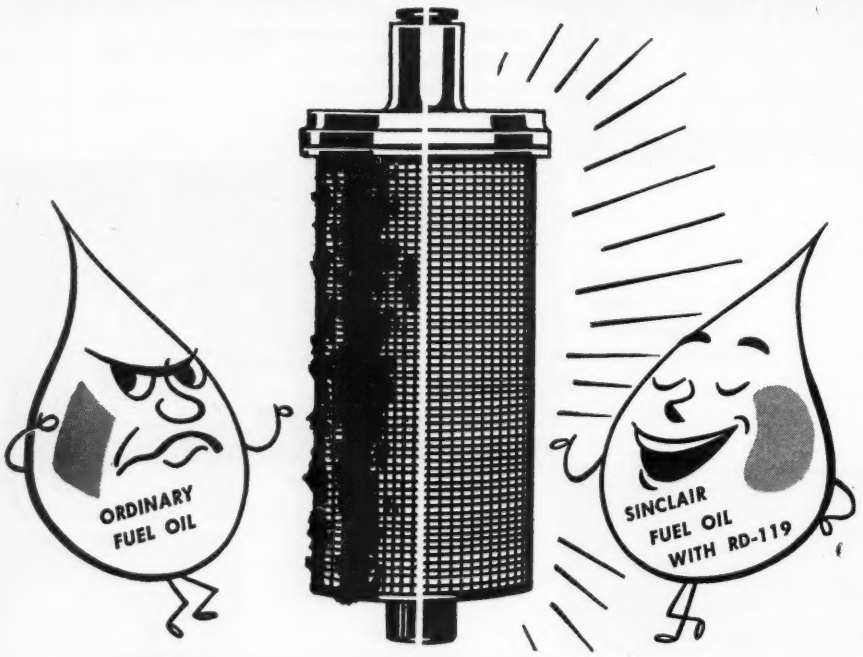
The filters are made of paper, are disposable, and are offered to prevent



dust leakage and blow-outs.

Made by: Mastercraft Supply Co., Inc., Haverstraw, N. Y.

How Sinclair RD-119 CUTS SERVICE COSTS



RD-119 Stops Rust—Keeps Customers Happy

With ordinary fuel oil, RUST, caused by moisture condensation, clogs filter screens and burner nozzles. This results in customer complaints, increased servicing costs. But Sinclair Fuel Oil contains RD-119®, Sinclair's miracle rust inhibitor. Used regularly, RD-119 stops rust—cuts service-call expense, helps keep your customers happy. Save money, save trouble with . . .

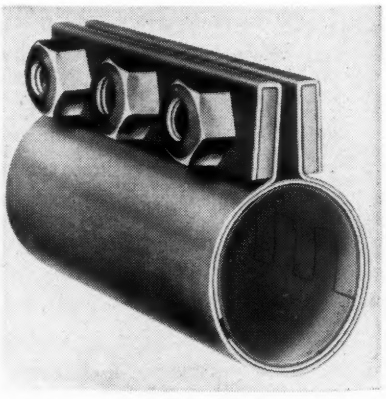
SINCLAIR
FUEL OIL WITH RD-119®

ANTI-RUST Super Flame ®

Morris pipe Coupling in Sizes up to 14"

A NEW STYLE compression pipe coupling is made in sizes from ½" to 14" standard pipe sizes, including intermediate tube sizes. It will couple ferrous to ferrous or ferrous to non-ferrous materials and joins threaded to non-threaded pipe, as well as threaded to threaded. More than a year's testing and field service have established the couplings ability to reduce electrolytic corrosion and turbulence at the pipe joint.

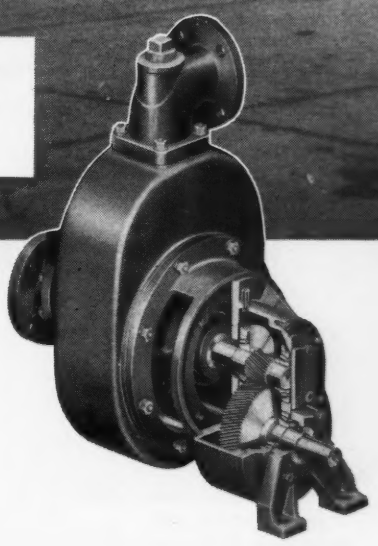
It is made up of three parts. A gasket made of material for specific job applications is die-cut to form a solid air or liquid seal against high or low pressures. Around this is placed a steel inner sleeve, whose die-cut teeth form a complete seal when the outer shell is bolted around it. The outer shell is made of zinc coated steel or corrosion



MARLOW pumps picked for important plane refueling service!

With a MARLOW Type G Power Take-Off Tank Truck Pump, Standard Oil Company of Kentucky refuels this big Delta Airlines plane quickly, easily, SURELY at the Atlanta, Georgia, airport.

Pump supplied by Equipment Sales Co., Atlanta, Ga.



An easily installed pump, it is the Marlow Type G's specially designed, built-in gear increaser that permits direct coupling to the truck's power take-off.

At busy airports in Atlanta and seven other key cities in the southeast, Standard Oil Company (Kentucky) relies on Marlow Type G Self-Priming Centrifugals for refueling major airlines' planes.

Standard Oil, who knows plenty about petroleum products handling, finds the Marlow Type G Pump very satisfactory in performance and dependability. That's because Marlow engineers, in this pump design, have successfully converted truck engine idling speed to smooth, quiet, high capacity, *self-priming centrifugal operation* — the kind of pump operation that airlines and plane refuelers have so long sought.

Marlow's free-flow design and exclusive "diffuser" priming method enable this now famous Marlow to prime and purge itself automatically. It doesn't vapor lock. It has no auxiliary priming devices — nothing to get out of order. It can pump one compartment after another without attention. And Marlow's self-priming centrifugal eliminates rubbing surfaces and pumping system vibration . . . assurance of a long trouble-free life. Furthermore, the self-lubricating shaft seal — a Marlow exclusive — provides a safe, drip-proof closure. It's a pump that can't be beat for low maintenance.

Take a tip from the seasoned veterans. Whether you're a major or independent, if you're interested in petroleum products handling, Marlow engineers will be glad to help you. Write for more facts.

MARLOW PUMPS

593 GREENWOOD AVENUE
RIDGEWOOD, NEW JERSEY

Manufacturers of the World's Largest Line of Petroleum Marketing Pumps

resistant metals, when required. Washers, bolts and nuts are zinc-coated.

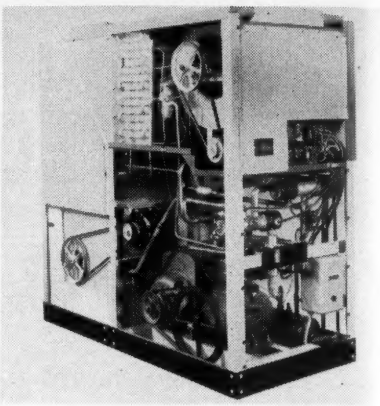
Made by: Morris Coupling and Clamp Co., P. O. Box 632, Ellwood City, Pa.

General Electric ships first package Heat Pump

GENERAL ELECTRIC has made its first commercial shipment of a new packaged "heat pump" year-round, all-electric air conditioning unit, being placed on the market after 15 years of development and field testing.

The device is a complete air-to-air unit, utilizing outside air as a source of heat, automatically providing heating, cooling, dehumidification and ventilation. At a specific thermostat setting the "heat pump" will heat or cool as required by indoor conditions. The equipment senses the change in weather conditions and adjusts itself to provide ideal indoor climate.

It is being made in 3 and 5 hp sizes and on the average, it is estimated that costs of operation will be about the same as present individual heating and

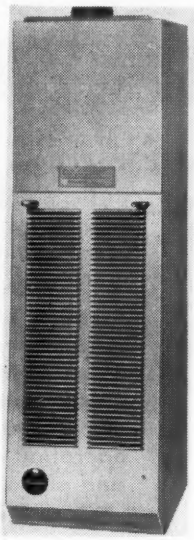


cooling equipment. The G-E "heat pump," which is going to be produced on an assembly line basis, actually operates on the same principle as an electric refrigerator, with the cycle reversed to provide heat when needed.

Made by: General Electric Co., Air Conditioning Dept., Bloomfield, N. J.

International adds Model to counter-flow Furnaces

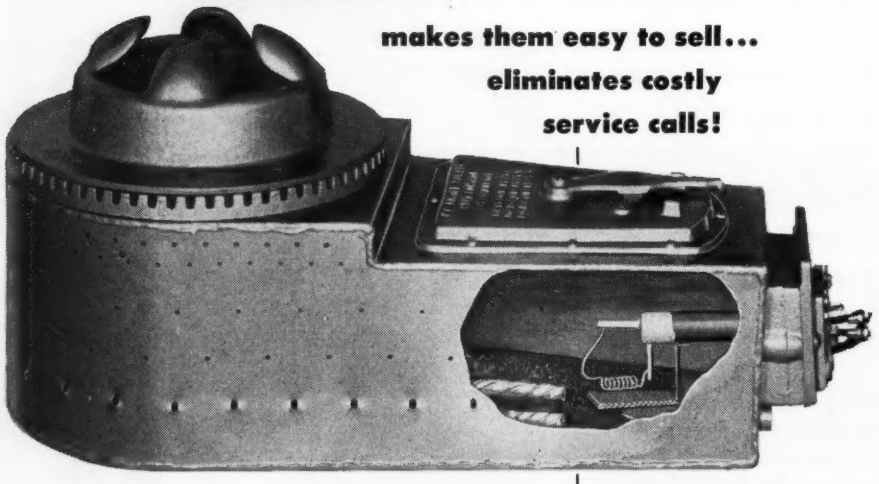
AN ADDITIONAL counter-flow furnace for perimeter heating has been announced by International Oil Co., the R9AJ, fired with a pressure atomizing oilburner. It incorporates a patented spring-suspended, drum type blower that circulates warmth at the floor level. With a 1,000 cfm blower the model develops a 103,000 Btu/hr output. Controls shipped with the furnace include a heat anticipating thermostat, limit and blower controls, barometric draft regulator, overload-protected blower motor, built-in stack switch and fan limit controls.



All parts are accessible from the cabinet front and the flue comes out of the top of the furnace. The cabinet requires little floor space, measuring only 22¼" wide by 31¼" deep by 74" high.

Made by: International Oil Burner Co., Spring & Park Aves., St. Louis 10, Mo.

the magic operation of H.C. Little oil burners



makes them easy to sell... eliminates costly service calls!

Because H. C. Little Oil Burners are equipped with the magic of H. C. Little low-voltage electric ignition, they automatically light themselves—yet have no pilot light, no high voltage spark! In the event of electric power failure they may be operated by hand until electric power is resumed—an amazing advantage!

This means that you can offer your customers fully automatic oil heating, thermostatically controlled, at lowest cost. The patented H. C. Little Progressive Low-Temperature Carburetion principle provides complete combustion of the oil without "cracking"—no soot or hard carbon deposits. Once installed, H. C. Little Oil Burners provide trouble-free operation for years—require no costly service calls—save you a large part of your service expense.

You can profit better by handling H. C. Little Oil Burners. ***Write today for sales discounts and complete specifications.***

LISTED BY UNDERWRITERS' LABORATORIES

BURN LOW-COST FURNACE OILS & CATALYTIC OILS

SAFE, SILENT OPERATION
—no motors, no blowers, no fans, no moving parts!

FLEXIBLE CAPACITIES
—seven sizes—35,000 B.T.U. to 350,000 B.T.U.

NO RADIO OR TELEVISION INTERFERENCE
—no high voltage electrical discharge.

THE LEADER FOR 23 YEARS—
more than 200,000 installations!

H.C. Little Burner Company, Inc.
Factory & Head Office
San Rafael, Calif.
Factory Representatives in 15 Principal Cities

HERE'S HOW TO MAKE AN EXTRA PROFIT

on every sale of one of these famous space heaters

Show your customers this easy to install Automatic Control for SPACE HEATING

ANYONE CAN INSTALL IT!

There's an A-P Comfort Control actually engineered to fit any of the heaters and floor furnaces listed here—and installation is so simple that anyone can do it. Just mount conversion top on present manual control; connect to thermostat and transformer. That's all there is to it!

When your customers buy a space heater, you can offer them all the luxury of true automatic, thermostatically controlled heat — equal in performance and convenience to the most expensive kind of heating! This means easier selling, because every customer wants this comfort and convenience, plus the economy of no wasted heat and substantial fuel savings!

Yes, you can make an EXTRA PROFIT on the sale of every space or trailer heater if you'll simply show your customer an A-P Comfort Control. Available for floor furnaces, too. Write for Bulletin T-6, today!

DEPENDABLE Controls

Famous for completely reliable service . . . in oil heating . . . gas heating . . . refrigeration.

A-P CONTROLS CORPORATION

(formerly Automatic Products Company)

2458 N. Thirty-second Street • Milwaukee 45, Wisconsin • In Canada: A-P Controls Corporation, Ltd., • Cooksville, Ontario

ALLEN'S
BARNES
BENNER-NAWMAN
BEYER
COLE HOT BLAST
COLEMAN
COLEMAN *(Canada)*
CREST *(Canada)*
CREST-AIRE *(Canada)*
CUSTOM AIRE
DOMESTIC
DRACO FIREBALL
DUO-THERM
ENTERPRISE
ENTERPRISE *(Canada)*
ESTATE HEATROLA
EVANS
EVEN-TEMP
FAWCETT TORRID-OIL *(Canada)*
FESS *(Canada)*
FINDLAY *(Canada)*
FLOOR-O-LATOR
FLORENCE
GILLEN
H. C. LITTLE
HERCO HEAT FLO *(Canada)*
INTERNATIONAL
JUNGERS
KEMAC *(Canada)*
KLEER-KLEEN
LACO
LONERGAN
MAGIC CHEF
MARCHAND *(Canada)*
MONARCH
MONARCH *(Canada)*
MONOGRAM
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NORGE HEAT
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PERFECTION
PREWAY
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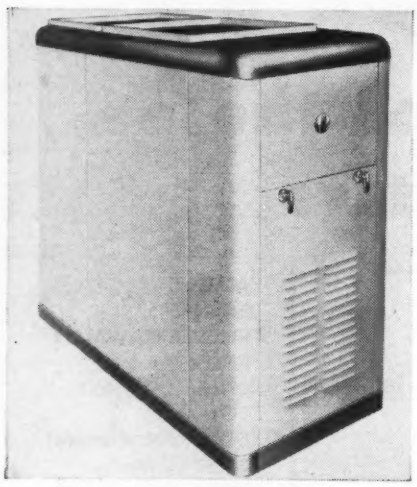
QUAKER *(Canada)*
SAFEWAY
SCOTSMAN
SIEGLER
SILENT FLAME
SUPERFLAME
THERMO-PRODUCTS
TORRIDAIRE
VIKIMATIC
WASHINGTON FRUGAL

Gillen Makes Oil-Gas Furnace with gun type Oilburner

A NEW INTERCHANGEABLE oil and gas-fired winter air conditioning furnace has been announced by the J. L. Gillen Co., with capacities from 80,000 to



125,000 Btus. The oil-fired unit has a flange-mounted pressure atomizing gun-type burner, while the gas-fired unit is equipped with a single port, fountain type gas burner designed especially for this series.

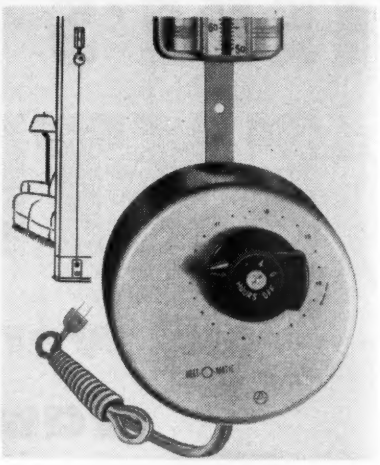
Burner is mounted on a single plate to allow easy access for installation and service. Large centrifugal type blowers with adjustable motor pulleys allow for continuous air circulation. The furnace is 26″ wide, 54″ long, and 52″ high with base and top assembly in bronze hammertone while body panels are finished in gold hammertone.

Made by: J. L. Gillen Co., 12202 Wormer Ave., Detroit 28, Mich.

Heet-O-Matic is day-night Control

THE HEET-O-MATIC day and night thermostatic control is described as a combination timer-heater, powered by a Telechron fractional hp motor that operates from 110 volt A.C. 60 cycle wall outlets through an attached 6 ft. cord. All working parts are enclosed in a urea-formaldehyde plastic case, finished in sumulated satin-brass color.

The control is designed for application to thermostats, without rewiring the thermostat. A one-screw attachment of the timer-heater unit to the thermostat and plugging into a wall



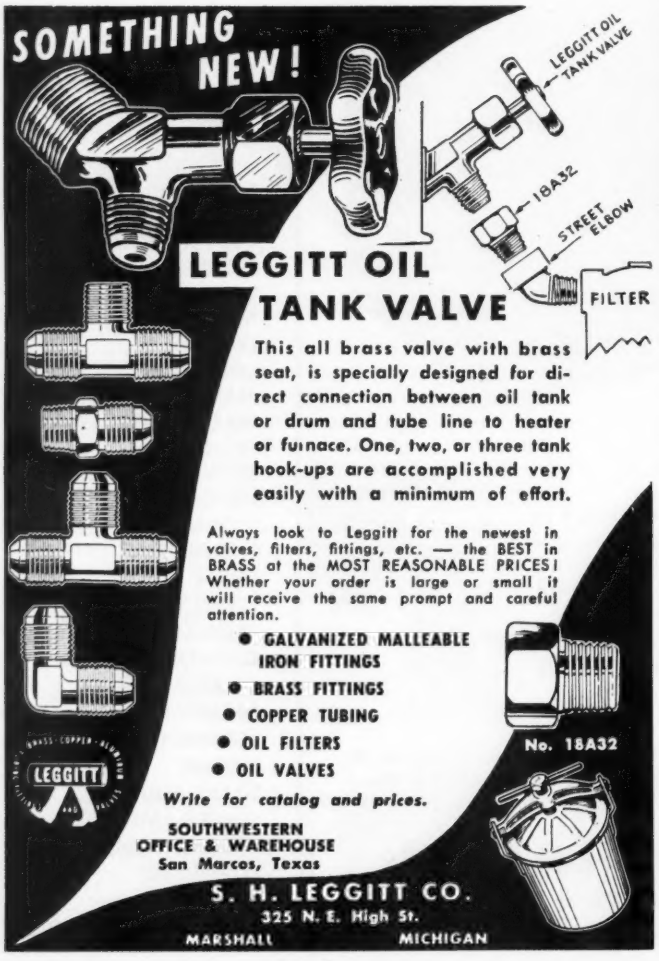
outlet completes the installation.

Made by: Automatic Controls Corp., Ann Arbor, Mich.

Majestic winter Conditioners provide up to 200,000 Btu/hr.

NEW MODELS of winter air conditioning units added to the Majestic line, including 4 sizes ranging from 120,000 to 200,000 Btu/hr., may be furnished in gas or oilburning units, for up-flow and horizontal-flow installations.

The horizontal-flow unit, con-


SOMETHING NEW!
LEGGITT OIL TANK VALVE
18A32
STREET ELBOW
FILTER
LEGGITT OIL TANK VALVE
This all brass valve with brass seat, is specially designed for direct connection between oil tank or drum and tube line to heater or furnace. One, two, or three tank hook-ups are accomplished very easily with a minimum of effort.
Always look to Leggitt for the newest in valves, filters, fittings, etc. — the BEST in BRASS at the MOST REASONABLE PRICES! Whether your order is large or small it will receive the same prompt and careful attention.
• GALVANIZED MALLEABLE IRON FITTINGS
• BRASS FITTINGS
• COPPER TUBING
• OIL FILTERS
• OIL VALVES
No. 18A32
Write for catalog and prices.
SOUTHWESTERN OFFICE & WAREHOUSE
San Marcos, Texas
S. H. LEGGITT CO.
325 N. E. High St.
MARSHALL MICHIGAN

For that EXTRA PLUS .. Galongage
To meet today's competition you need something more than just "Good enough." You need the plus values of top performance and established consumer acceptance. Galongage is designed to do just that — to satisfy the most exacting requirements and do credit to the finest installation.
So when installing or checking, make it Galongage for greater efficiency and customer satisfaction.
International
Highest grade lever arm type gauge to team with
GALONGAGE
• Flexible float arm
• Rugged and durable
• Extra large numbers calibrated in eighths
• Assembled oil-tight at the factory.
GALONGAGE is the only oil tank gauge generally used that measures in gallons. Comes fully assembled to save installation charges. Calibrated for each standard size 275-250 and 220-gallon tank with depths of 44″, 42″, 27″ and 26″, with 1½″ or 2″ tank openings.
APPLIED MECHANICS COMPANY
167 OLIVER STREET, BOSTON 10, MASSACHUSETTS

There is no other Burner that can offer all these *Plus* Advantages

NO COMBUSTION CHAMBER

•

MINIMUM SERVICE CALLS

•

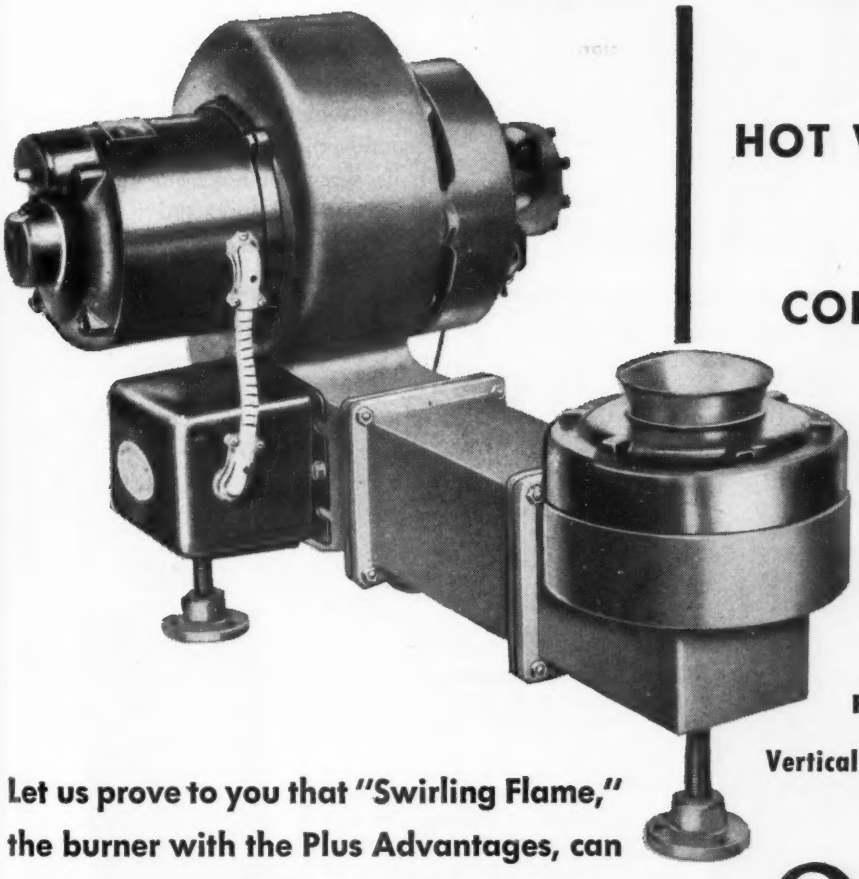
FASTER--EASIER TO INSTALL

FOR STEAM
HOT WATER-WARM AIR

•

AMAZING CONSUMER APPEAL

These are Facts
SWIRLING OIL BURNER MFG. CORPORATION
can back up



MODEL A-2

FIRING RATE:- .75 to 3.00 G.P.H.

Vertical High Pressure Atomizing Oil Burners

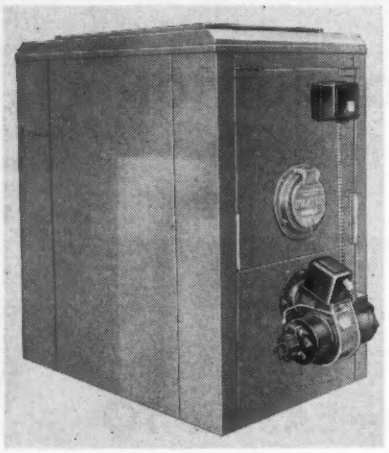
Let us prove to you that "Swirling Flame," the burner with the Plus Advantages, can help you . . . **Build Greater Profits** . . . **Less Time on the Job** . . . **a Better Heating Installation** . . . and give your **Customers More Heat with less Fuel** . . . Write for information.

SWIRLING OIL BURNER MFG. CORPORATION
22-09 37th Avenue • Long Island City 1, N. Y.

Swirling Flame

THE BURNER WITH THE *Plus Advantages*

fueloil & oilheat



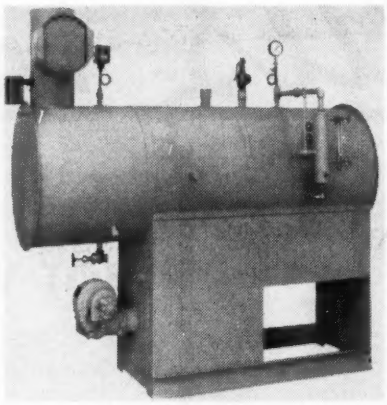
structed of heavy gauge steel with electrically-welded seams, can mount the blower unit on either side or at the rear of the furnace. The range of the vibration-insulated blower series is from 800 to 3400 cfm. All bearings are self-aligning, with large oil reservoirs.

The up-flow type is designed for homes requiring up to 145,000 Btu/hr. and the smallest of these units is 32" wide, 46" deep and 83" high. Including the blower, the entire unit occupies only 10 ft. of floor space. All models are encased in heavy gauge steel, finished in blue baked enamel.

Made by: The Majestic Co., Huntington, Ind.

Lattner HRT Boiler is portable Unit

LATTNER HRT units are horizontal return tubular oil boilers, specially designed for automatic operation in cleaners and dyers, small laundries and similar industrial applications. Five models, 3, 5, 10, 15 and 25 boiler horsepower, are available, each fired with gun type oilburners and incorporating a built-in refractory combustion chamber. Standard equipment includes a steam pressure switch, safety stack switch, steam type fuse plug and a draft regulator.



A 2" blanket of insulation covers the boiler shell, with additional high temperature insulation applied on top, sides and cover. Lattner HRT's are ASME boilers and are available in vertical types.

Made by: P. M. Lattner Mfg. Co., Cedar Rapids, Iowa.

Thermolok expands its Line of locking Devices

THERMOLOK's line of thermostat locking devices to prevent tampering with settings has been expanded. New models have been designed to protect Penn, Perfex, Sampsel, Detroit Lubricator and General Electric thermostats. These are in addition to the initially-announced models for use with M-H thermostats and Chronotherms.

Thermoloks are snapped into place around a thermostat and do not require nails, screws or holes cut in the wall. Equipped with locks and keys they do not interfere with air flow around the

The Valves DON'T LIME UP

on NEW IMPROVED THERMO-DRIP Automatic HUMIDIFIERS

Valves are cradled in end of thermostat tube. Kept air tight. Water cannot spray. It is funneled. Even with valve wide open water runs smoothly. This overcomes clogging . . . liming up.
Water drops into pan only after it is hot. Each drop sizzles into steam as it strikes heated pan surface. This puts the MOST MOISTURE into air stream when it is MOST NEEDED.
Write today for complete information. FO-1

AUTOMATIC HUMIDIFIER CO. CEDAR FALLS, IOWA

"BUILT BY BUCKEYE —best guarantee you can get!"

If you're looking for *better* Oil Burner Accessories—look for the BUCKEYE name. Buckeye-built equipment does an efficient job year after year. The Foot Valve shown here is a good example. It has seats and discs machined to a glass-like surface with discs lapped to the seat by *hand*. When you want better installation jobs—use better-built BUCKEYE accessories.

Buckeye

No. 439 Foot Valve

BUCKEYE IRON & BRASS WORKS, Dept. F, Box 883, Dayton 1, Ohio

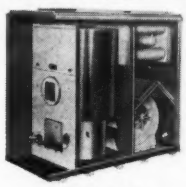
Strainers • Sludge Pumps • Foot Valves • Fill Boxes
Check Valves • Vents • Shut-Off Valves • Bushings

MONCRIEF *has EVERYTHING* your customer demands in modern heating equipment!

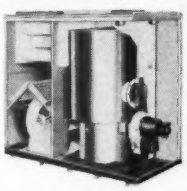
- **GRAVITY FURNACES**
  with Steel or Cast Iron Heating Elements
- **AIR CONDITIONING UNITS**
  with Steel or Cast Iron Heating Elements
- **COUNTERFLOW UNITS**
  for Perimeter and Crawl-Space Installation

With Numerous Models **DESIGNED and APPROVED** *for either* ***GAS*** *or* ***OIL*** *firing*

MONCRIEF BASEMENT AIR CONDITIONING UNITS

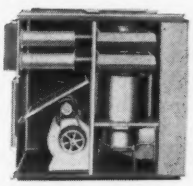


As a GAS Unit
70,000 to 250,000
B.T.U. Input



As an OIL Unit
76,000 to 212,000
B.T.U. at Bonnet

Approved for Either Gas or Oil
WITH STEEL HEATING ELEMENTS



90,000 to 200,000
B.T.U. Input
Cast Iron Element
for Gas Only

Do you want to make a most profitable visit? A visit that will pay you dividends in the years to come? If so—visit your Moncrief jobber who has a most interesting story to tell you about Moncrief—a NEW story—a revolutionary story.

Your Moncrief jobber will tell you about Moncrief units so ingeniously designed and so soundly constructed that they are approved to burn either Gas or Oil, and with equal efficiency.

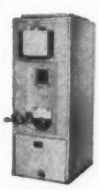
Your Moncrief jobber will show you how the versatility and adaptability of Moncrief heating equipment lets-you-in on every heating order.

Your Moncrief jobber will show you how simple and easy it is to order Moncrief heating equipment—Why Moncrief has unusual appeal for the builder, architect and homeowner with its years-ahead features that include independence of fuel restrictions.

If you do not know your Moncrief jobber, write us for his name.

MONCRIEF Utility A.C. Unit

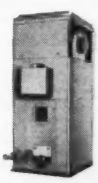
As an Oil Unit
75,100 to 106,000
B.T.U. at Bonnet



As a Gas Unit
95,000 to 125,000
B.T.U. Input

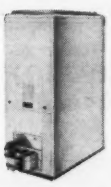
MONCRIEF Counterflow Unit

As an Oil Unit
75,100 to 84,100
B.T.U. at Discharge Outlet



As a Gas Unit
95,000 to 115,000
B.T.U. Input

MONCRIEF Gravity Furnace

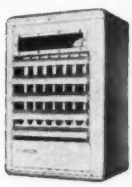


As an Oil Unit
71,200 to 100,000
B.T.U. at Bonnet

As a Gas Unit
85,000 to 130,000
B.T.U. Input

Approved for Either Gas or Oil Firing **with equal heating efficiency**

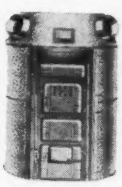
The NEW MONCRIEF UNIT HEATER



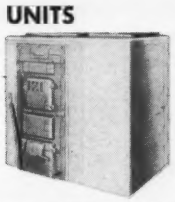
5 SIZES
60,000 to 240,000
B.T.U.

MONCRIEF COAL FIRED UNITS

Cast Iron
Gravity Furnace
20" to 28" Firepot



Steel
Gravity Furnace
20" to 34" Drum



Air Conditioning Unit
Steel Element
86,642 to 127,633
B.T.U. at Register

MONCRIEF PIPELESS FURNACE
18" to 24" Firepot

MONCRIEF SUREFIT

CARTON-PACKED FITTINGS
Easy to Sell... *Save Time*
Easy to Handle... *Save Space*
Easy to Stock... *Save Money*
BUY 'EM BY THE CARTON

Also

MONCRIEF PREFABRICATED DUCT
MONCRIEF FURNACE PIPE ELBOWS AND ANGLES . . .
BUY 'EM BY THE BUNDLE

THE HENRY FURNACE COMPANY • *Medina, Ohio*

HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

5 WAYS BETTER

Guardian

FLEXIBLE COUPLINGS

New Extruded Splined Type Guardian Flexible Coupling

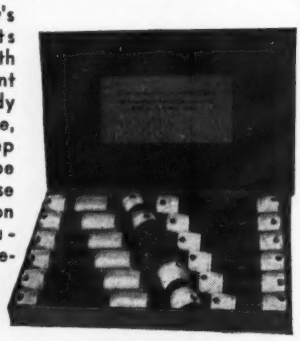
Regular set screw type

- EASILY INSTALLED
- MORE RUGGED
- TROUBLE FREE
- CLOSEST TOLERANCE
- QUIET OPERATION

You'll see why there is such a growing demand for Guardian flexible couplings when you use them on your first installation. The new extruded splined type can be installed easily in nothing flat. It fits to close .001 inch tolerance. Ruggedly constructed and specially treated to resist oil, Guardian couplings give the utmost in trouble-free performance. A variety of standard sizes or to your specifications.

GET THIS CONVENIENT COMPLETE SERVICE KIT

97% of today's requirements can be met with the assortment in this handy kit. Get one, use it and keep it filled to be ready for those extra profits on flexible coupling replacements.



MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Put a GUARDIAN Here — YOUR UNIT

Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-12, 1215 East Second Street

Michigan City, Indiana

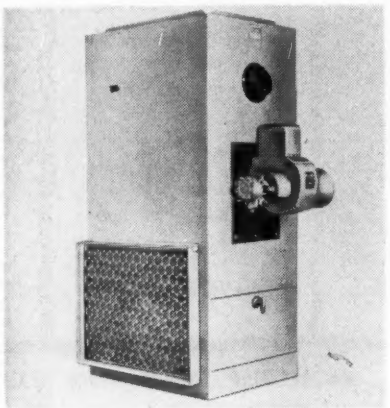
control and are intended for use in apartment houses, offices and similar locations where it is desirable to prevent thermostat settings from being changed indiscriminately.

Made by: Thermolok Mfg. Co., 541 Rogers Ave., Brooklyn 15, N. Y.

Quiet Automatic's Hi-Boy is rated at 75,000 Btu

A NEW MODEL, added to the line of Quiet Automatic's completely-assembled units, is the Hi-Boy No. 70A, rated at 75,000 Btu, 1,000 cfm. It is equipped with a 1/6 hp. motor and measures 25" x 26" x 60" overall.

Shipped ready to install, the furnace unit features a pre-cast combus-



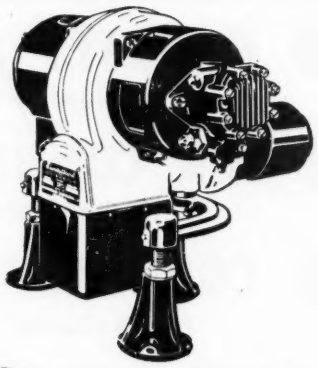
tion chamber, 12 gauge welded steel construction, cold air and filter rack on right or left bottom side of furnace and a flange-mounted Quiet Automatic gun burner.

Made by: Quiet Automatic Oil Burner Corp., 33 Bloomfield Ave., Newark 4, N. J.

Scovill 520-H Couplings are used on fueloil Hose

SCOVILL 520-H couplings have been designed for use on distillate and fuel-oil hose and feature lock-on selective ferrules that become an integral part of the coupling body by the attaching operation. The permanently-attached couplings maintain full flow since the internal diameter of each section is expanded to the nominal size of the hose. Besides assuring an interrupted flow of petroleum products through the unit, the expansion operation when the couplings are attached locks the coupling body and ferrule together in a tight metal joint and increases the

SUNDSTRAND MEANS SALES



Sundstrand All Electric
OIL BURNER

ATTRACTIVE

Modern, functional design, with no cumbersome "extras"

DURABLE

Sturdy construction for long wear under any conditions

ECONOMICAL

Built to provide low initial cost and low operating cost

DEPENDABLE

Reputation for trouble-free operation throughout the years

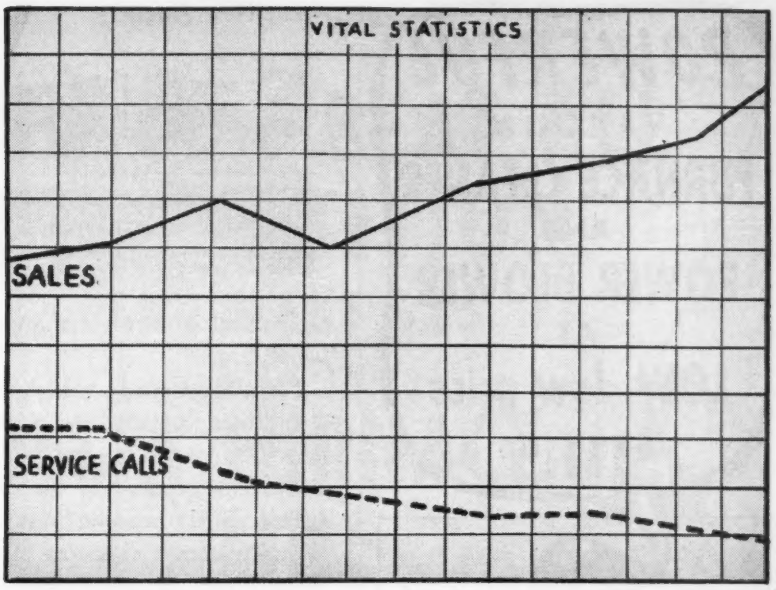
QUIET

Heavy housing and cushion-mounted motor eliminate noise

A complete line, with consumer acceptance and a burner for every job. For full information, write:

SUNDSTRAND ENGINEERING CO.
ROCKFORD, ILLINOIS, U. S. A.

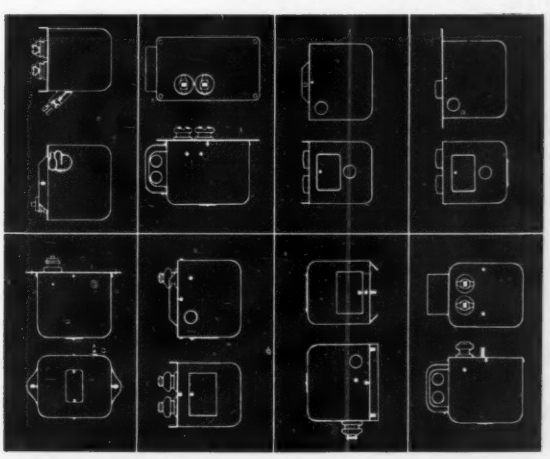
KEEP A RECORD



OF Dealers Service Costs ?

Dealers like to sell oil burners that give complete customer satisfaction. No free service calls, no parts replacements. Every time a dealer has to replace a defective transformer, it takes a slice out of his profit, costs you money and starts the customer thinking that he has made a poor choice in his purchase. In designing the Acme Electric line of oil burner ignition transformers, our goal was to develop a transformer, so ruggedly constructed, so highly efficient and dependable in performance that there need never be trouble-shooting caused by transformers properly installed and operating under normal conditions.

Acme Electric transformers are available in a variety of mounting designs. Our engineers will be glad to cooperate with you.

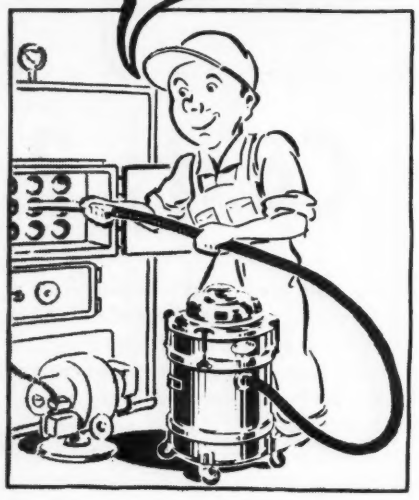


ACME ELECTRIC CORPORATION

501 WATER ST. CUBA, N. Y.

Acme ACME Electric
TRANSFORMERS

POWERFUL
VACUUM
FURNACE CLEANER
AND
POWER BLOWER
AT
LOW, low price
$111.65



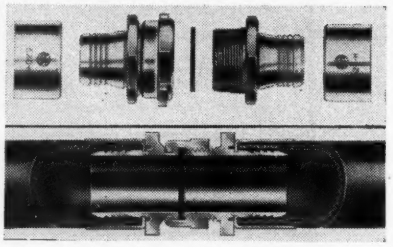
Here's the vacuum that gets you into the cellar at the lowest price; allows cheap cleaning jobs to develop into profitable service work. The Pullman Vacuum is inexpensive, powerful, portable and has no outside bag. It will handle home boilers and small industrial jobs. The complete unit of efficient universal motor, life-lubricated bearings, electro-welded steel container, capacity 1½ bushels, baked enamel finish, plug-in casters, 35′ cord, 10′ hose and 27″ crevice tool is only $111.65. Send for name of nearest distributor. Jobber inquiries invited.

OHI

USE to blow out fuel tanks, clean air ducts, registers, beams, floors and in shop maintenance.

Pullman

PULLMAN SALES CORP.
MFR: BOSTON 19, MASS.



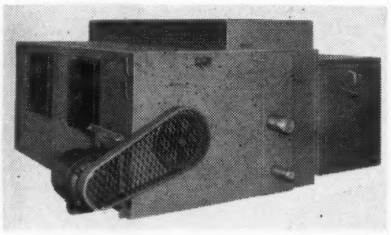
mechanical strength of the entire assembly.

Ferrules are made of high strength, cold drawn, copper alloy with straight sides that parallel the hose body. Male and female sections of the couplings are machined from solid brass forgings, the male section consisting of a single forging and the female section made up of two forgings assembled into a permanent inseparable unit. Both sections have octagonal facets for tightening with ordinary wrenches. Sizes available are ¾″, 1″, 1¼″, 1½″, 2″, 2½″ and 3″.

Made by: Scovill Mfg. Co., Merchandise Div., Waterbury 20, Conn.

Kennard adds heating and ventilating Units

ANNOUNCEMENT of the addition of heating and ventilating units to its line has been made by the Kennard Corp., to provide filtered recirculated air, fresh air, a mixture of both or ventilation only. The units are used conventionally for heating large spaces, or as a central station unit to



heat many small rooms. They can be adapted also for a variety of special and process applications.

Air volumes range from 400 to 21,000 cfm, with models available for wall, floor or ceiling mounting. Both pre-heat and re-heat coils are furnished, with air distribution characterized by moderate tip speeds and outlet velocities. Optional equipment includes mixing box and dampers, face and bypass dampers, air filters.

Made by: Kennard Corp., 1819 S. Hanley Road, St. Louis 17, Mo.

Stedco fin-tube convector Units

STEDCO fin-tube convectors are available in sizes for residential, commercial and industrial applications, featuring steel or aluminum fins for hot water or steam heating. Radiation elements are designed for high heating capacity, 1 lineal ft. of Stedco steel finned radiation producing 1676 Btu's or 7 sq. ft. of EDR per hour. Aluminum finned units provide 1930 Btu's or 8 sq. ft. of EDR per hour. The output increases an additional 10% when used with Stedco convector cabinets.

Free standing cabinets are 10¾″ high and 4½″ wide, and may be supplied with open bottom, top and bottom grille, for recessed radiation or round grille bracket supported. Cabinet height convectors also are available, furnished in 20″ heights for double-tiered installations and 30″ heights for triple tiers. Stedco units are recommended for new construction or remodeling work and, with the use of joining strips, cabinets and radiation elements can be made continuous in any desired length.

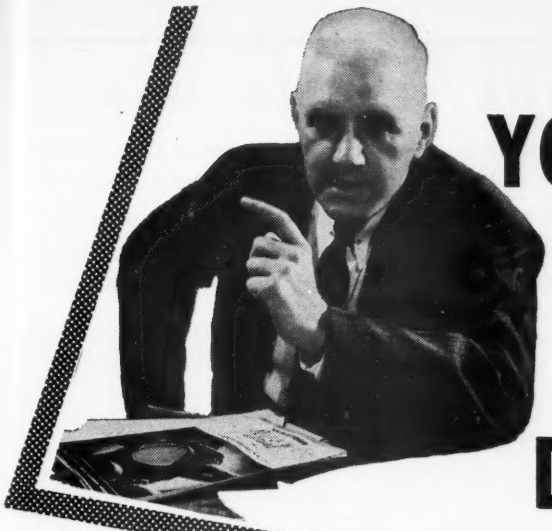
Made by: Stedco Products, Wilkes-Barre, Pa.

Delta suspended Furnace offered in two Sizes

SUSPENDED or special application is possible with the oilfired furnace unit being offered in two sizes by Delta. Most common usage is to suspend the unit from a ceiling for commercial heating using either direct air distribution or ductwork. It also can be used in basementless homes by installing the unit in the crawl space underneath the house or in the attic. Provision has been made for pipe legs and flanges to support the furnace on the attic floor.

Model SU110 has an output of 110,000 Btu/hr; SU75 develops 75,000 Btu/hr. Casing measurements for both units are the same, 62″ long, 20″ high and 28″ wide. A Delta flanged atomizing oilburner fires the units, which are shipped complete with built-in refractory combustion chamber, air filter and large water-wheel type blower fan.

Made by: Delta Heating Corp., Cole St. at Reading R. R., Trenton 8, N. J.



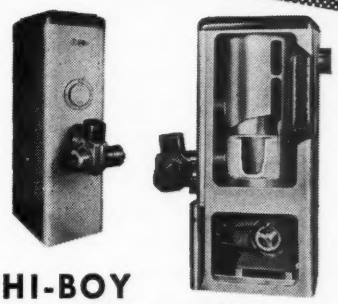
YOU CAN BEAT ALL COMPETITION

AND MAKE $$$

WITH THE

DELTA FURNACE LINE

AUTOMATIC D HEATING

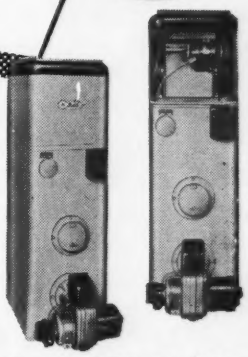


HI-BOY
MODEL HB-90T

Versatile! Only 5' top to bottom—hides itself away in basement, utility room, or even a closet. One stock model with return at both sides and bottom. 90,000 BTU/HR at bonnet. Factory assembled—ready for installation

LOW-BOY
MODEL LB-90

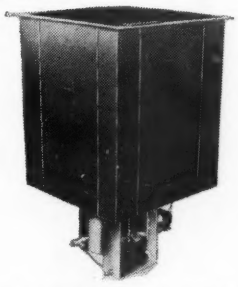
Popular style. Only 45" tall — 20" wide! 93,000 BTU/HR at bonnet. Factory assembled — ready for installation.



COUNTERFLOW
MODEL CF-90

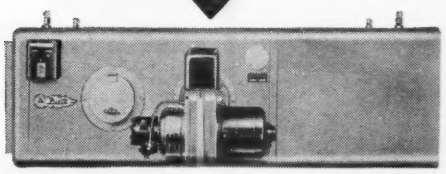
Gaining popularity in slab-constructed houses and crawl-space bungalows. Only 5' tall — 20" wide — 28" in depth—will even fit in a closet! Front or rear flue outlet optional. 90,000 BTU/HR. Factory assembled.

AMERICA'S *Fastest Growing* FURNACE LINE



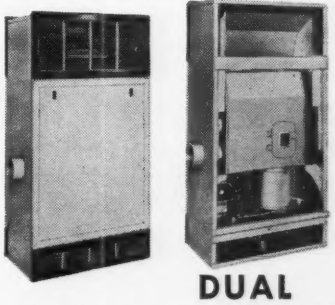
FLOOR FURNACE

Two models. The deluxe Sun-Burst and the low-cost development model FL-200. Forced-draft blower. Two feet square. Simple to install. 50,000 BTU/HR. Factory assembled and wired for either manual or fully automatic operation.



SUSPENDED - MODELS SU-75, SU-110

Excellent for special-purpose heating applications — attic, low-basement, ceiling and underneath the floor. Two sizes — 75,000 and 110,000 BTU/HR. Factory assembled with hanger posts or base flange-stands.



DUAL WALL FURNACE
MODEL WA-100

Especially created for small-home developments. Designed for wall installation with outlets on both sides. A money and space-saving forced-air heating system, requiring no ducts. 52,000 BTU/HR register rating. Factory assembled and wired — ready for installation.

WRITE OR WIRE NOW FOR PRICES AND COMPLETE DETAILS

DELTA HEATING CORPORATION

• TRENTON 8, NEW JERSEY •

SINCE 1927
STANDARD AUTOMATIC OIL BURNERS
Shell Head Models Available

Confucius once say:
"I sleep well, Standard Burner not tossed from pillow to post."

•

Write for Territory open in your Locality

Models from ¾ gal. to 20 gal. per hr.

STANDARD ARCOIL CORP.
21-23 Broad Street Newark 4, N. J.

THE SELLING MAN

W. A. Matheson wrote this comprehensive book to help those who are breaking into selling and for the improvement of active salesmen. The practical techniques he suggests have been tested and proven by his own experience with them, presented on the basis that everyone can sell if he'll take the trouble to learn.

(Please send remittance with order) $5

HEATING PUBLISHERS, INC.
232 Madison Ave. New York 16, N. Y.

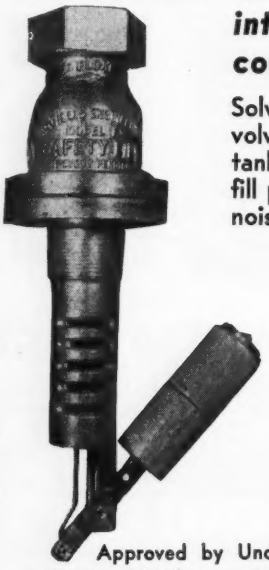
Oilheating Trends

(*Begins on page* 12)

heating fuels at refineries, primary terminals and in transit on December 8 East of the Rockies were 84,235,000 barrels, compared with 68,311,000 barrels on the corresponding date last year, or a rise of 23% which is substantially greater than the estimated demand for this heating season.

DEALER COMMENTS: Typical comments on questions of the month are these . . . "We are not having trouble with any supplies because we anticipate our needs at least 3 months in advance" . . . "We find that high speed motors need more service" . . . "We can't get ⅝" or ⅜" for radiant heat" . . . "Business continues to be good" . . . "We carry an unusually large inventory which is why we have not had material trouble as yet" . . . "Our best salesman has been called back to Naval Reserve for two years" . . . "We can get oil from other sources to take care of our present accounts but the question of getting what we need for the future is a big one" . . . "Residual oil very tight—can't get enough of either No. 5 or No. 6" . . . "Business is very slow" . . . "Sheet metal very short" . . . "A bigger margin on oil would help a great deal to overcome the extra expenses today" . . . "If in your idea contest the special brush for cleaning fans won, why not start a movement for oilburner manufacturers to provide a square place in the housing for cleaning fans and pump coupling alignment" . . . "Chemicals being put in oil by major companies are eating out oil tanks" .

New! *The*
McGILLIS SAFETY VALVE
automatically shuts off supply of oil into tank at correct level!



Solves problem installations involving long fill pipes, multiple tanks, vent pipes distant from fill pipes, or neighborhoods too noisy to hear audible signal.

Let the
McGILLIS SAFETY VALVE
improve service to your customers by eliminating the human accident factor while filling tanks.

Approved by Underwriters' Laboratories
Dealers, Distributors: Write for further information.

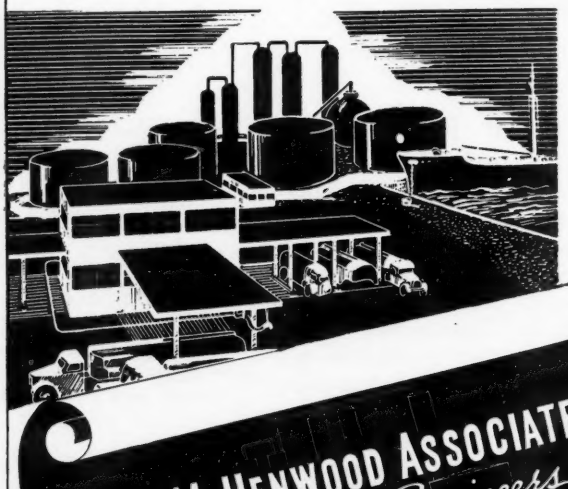
McGILLIS SERVICE ENGINEERING, INC.
1554 MAIN ST. BROCKTON, MASS.

CAREFULLY Planned MODERNIZATION

resulting in
GREATLY INCREASED THROUGH-PUT
ECONOMICAL PLANT OPERATION
EXPANDED PROFITS

•

We invite you to share our more than twenty years of experience in planning and erecting plants for the oil industry



ROY M. HENWOOD ASSOCIATES
Architects · Engineers
140 CEDAR ST., NEW YORK 6, N. Y.
TEL. WORTH 4-6485

"I'll give you 3 big reasons why I always specify the Chronotherm!"

. . . says Bill Masoner, Jr., Vice-President, Inland Heating Company, Chicago

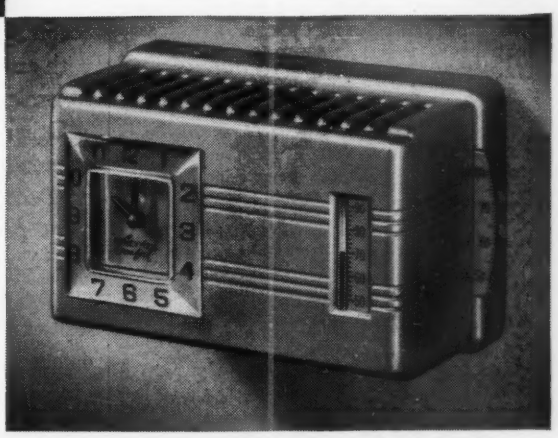
Bill Masoner, Jr., left, talking to Tom Moore, Honeywell salesman

"First—it satisfies our customers. It gives them the last word in automatic heating comfort and convenience, *besides* saving them money on fuel costs. Many of our customers actually come back later to thank us, because we *insisted* on putting in a Chronotherm. You can't beat *that* kind of customer satisfaction!

"Second—it protects our reputation. Our reputation is probably the most valuable single business asset we have. My Dad couldn't have stayed in business for 30 years out here, had we ever used cheap or inferior equipment. We've always guaranteed our work—why shouldn't we guarantee our equipment, too?

"Third—it increases our profit. We're not in business because we enjoy *working* for a living! When we sell a customer a Chronotherm, instead of an ordinary manually operated thermostat, we make a nice extra profit on the job. And we do a good business in controls here—approximately a thousand dollars worth a month. So you can see that this extra "Chronotherm" profit, over a period of a year, adds up to a pretty nice figure.

"There you have it, my three big reasons why I always specify the Honeywell Chronotherm on every job I can."



The famous Honeywell Chronotherm

Latest surveys show that 3 out of every 4 families with thermostats raise and lower temperature settings every day, *by hand*—a big, potential market for any dealer who sells the Chronotherm; because the Chronotherm *automatically* raises temperatures in the morning, *automatically* lowers them at night, besides saving fuel! For full facts about the Chronotherm, and other famous Honeywell controls, call your local Honeywell office. Or write today to Honeywell, Dept. FH-1-13, Minneapolis 8, Minnesota.

MINNEAPOLIS **Honeywell**

First in Controls

Another Honeywell Plus-Profit Idea

fuel oil & oilheat

Big Market!
Good Profits!
Repeat Sales!

Klemm

FUEL OIL FILTERS

Only a Klemm Filter can match a Klemm Filter in *extra values.* Your customers will be quick to see the additional advantages ...*and that means easier, faster, more profitable sales for you.*

Klemm Filters alone have CHEMISTONE —the original controlled porosity element. The Klemm is a *filter*—not a strainer. It keeps oil-burning equipment at top efficiency by removing dust, dirt, water, etc.

Cash in on the big ready-made market—space heaters, boilers, ranges. Sell Klemm Filters on your service calls. Every sale means a satisfied customer. ORDER A SUPPLY FROM YOUR JOBBER TODAY.

DISPLAY...TELL...SELL!

This eye-catching display is sent to you with each order for 12 or more Klemm (Jr. Model) Oil Filters. Shoppers and walk-in customers are sold while they wait.

Millions Since 1932

Klemm

AUTOMOTIVE PRODUCTS CO.

1718 N. Damen Avenue • Chicago 47, Illinois
Mfd. in Can. by Elgee, Ltd. 410 Hopewell—Toronto
Export Div.: Guiterman Co., Inc. 35 S. Williams St., New York, N. Y.

Industry Groups

(*Begins on page 92*)

ICHAM holds Convention and management Conference

THE WINTER CONVENTION and Management Conference of the Institute of Cooking and Heating Appliance Manufacturers, Washington, D. C., was held on December 3, 4 and 5 at Cincinnati, Ohio. More than 400 registered for the 3-day meeting, which featured talks by Government and industry officials, outlining the prospects for production and sales trends in 1952.

Principal speaker at the December 3, general session, which included a forum on Governmental regulations, was R. F. Sentner, assistant executive vice-president, United States Steel Corp. He recently returned to his position with USS after serving as director of NPA's Iron and Steel Division, and outlined in his talk what the steel supply situation will be this year, barring an all-out war.

A second general session on December 4 featured three speakers. Robert A. Weaver, chairman of the board of the Ferro Corp., sounded the keynote in his talk, "A challenge to consumer durable goods industries." The second speaker, J. S. Imirie, deputy for materiel program, Office of the Assistant Secretary for Air, described ways in which stove manufacturers can contribute to the defense program by undertaking contracts for airplane parts and components. Edward F. Phelps, Jr., assistant director, Office of Price Stabilization, concluded the program with an outline of the "Trend of price controls."

Other items on the convention's agenda included conference meetings on December 5, covering top management problems, price controls, CMP and other NPA regulations, salary and wage stabilization regulations. A session of the Oil Division on December 4 heard M. O. Rotman, president, Harshe-Rotman Co., Chicago, discuss the importance of "Publicity as a part of specialized retail selling."

Two social events were programmed, the President's reception and dinner on December 4, followed by entertainment and dancing.

North Carolina Jobbers hold annual Meeting

THE ANNUAL MEETING of the North Carolina Oil Jobbers Association, Raleigh, N. C., on January 16 at the Hotel Sir Walter was arranged as a one-day business gathering, beginning at 10 A.M. The morning session was a closed affair for jobbers only, with the Consignment Distributors' Section meeting at the same time. Both groups combined for the afternoon session.

Seven directors were named during the meeting and these, with the hold-over directors, elected a new slate of officers. The spring convention of the Association is to be held in The Carolina at Pinehurst on May 25 to 27.

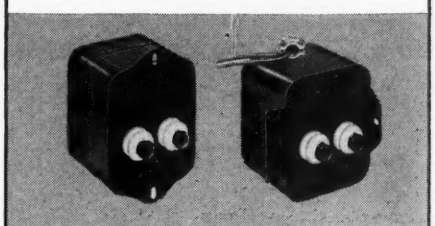
Committees named by Wisconsin Association

PRESIDENT Alfred Hegeman of the Wisconsin Oil-Heat Association, Inc., Milwaukee, Wis., in his regular December letter to members announced that the Association had reached its 30th year of activity, and took the opportunity to point out that regardless of what might have been accomplished

always specify

UNIQUE IGNITION TRANSFORMERS

for dependable performance!



- **Standard mountings or designed to meet your specifications.**
- **Radio shielded and adaptable to any oil burner installation.**
- **Unconditionally guaranteed against mechanical and electrical defects. Write for details today!**

UNIQUE ART MFG. CO., INC.

Makers of Quality Products Since 1910

200 WAVERLY AVENUE, NEWARK 8, N. J.

YORK-HEAT PACKAGE OF PROFITS FOR 1952

Take a LOOK

CONTENTS

- **PRODUCTS**—America's most complete line of automatic heating equipment with new models for 1952 merchandising.
- **PROMOTIONS**—The Levittown Story—factual sales promotion built around 11,666 York-Heat installations in one city—a story that will help dealers sell more York-Heat.
- **PROGRAMS**—York-Heat's dynamic billboard program for 1952—national advertising at local levels—cooperative advertising—trademark service—new colorful sales literature.
- **LOWER PRICES**—York-Heat reverses the price trend with new lower prices across the boards. Ask about them.

All these add up to **greater profits** during 1952 for franchised York-Heat dealers.

TO ALL AUTOMATIC HEAT DEALERS WHO WANT GREATER PROFITS

York-Heat's distributors will soon be calling on wide-awake automatic heating dealers throughout the country to unwrap for them the York-Heat Package of Profits for 1952. If you want to be sure that he calls on you, write today to Department 1, York-Shipley Inc., York, Pennsylvania.

A PRODUCT OF YORK-SHIPLEY, INC., YORK, PA.

YORK HEAT

Oil and Gas-Fired Boiler Units, Winter Air Conditioners and Burners—Gas and Electric Water Heaters—Oil and/or Gas Fired Steampak Generators and Industrial Burners.

fueloil & oilheat

No. 1
Gorton Air Eliminator
⅜" vertical connection
For Mains and Unit Heaters

GORTON VALVES ARE QUICK VENTING

THE SOLUTION TO
STEAM HEATING PROBLEMS

WRITE TODAY FOR
LITERATURE AND PRICES

GORTON HEATING CORPORATION
Since 1887 — Manufacturers of Heating Equipment
CRANFORD • NEW JERSEY

Made with 5 sizes
of air outlets
No. 4, 5, 6, C and D
Standard ⅛" side connection
For Radiators

in the past, the future loomed much more important in presenting "a challenge to ourselves, our firms and our Association."

Mr. Hegeman announced appointment of the following committee chairmen and members, under the supervision of vice-presidents V. P. Schaetzel and V. P. Falk.

Golf Outing: G. C. Fillbach, chairman; Lester Hoppe, Charles Jacobus, J. L. Savage and Emery McNeil.

Membership: A district set up is being planned with a sub-chariman to be appointed in each district.

Legislation: John Kopmeier, chairman; Dave Gluck, Karl Werwath, Joe Hunt and Richard Johnson.

Grievance: Charles Smith, chairman; E. E. Hess, Jerry Flaherty, Jack Davies and Reiner Bon.

Programs and special events: Les Hoppe, chairman; Clarence Gorder, Richard Holden and A. E. Duwe.

Tickets and reservations: G. G. Cronau, chairman; John Bruzina, John Weiler, Nick D'Amico and Lester Knack.

Advertising: L. O. Woehrer, chairman; Pari Benson, J. H. Shellenberger, John Hume and Doyn Inman.

Advertising fund: Howard Elder, chairman; George Hochstein, Carter Wells, Thomas Moore and Julius Seiy.

Finance: Charles Stoffel, chairman; E. H. Berger, Lester Knack, J. L. Savage and John Weiler.

Home show: Harry Bringolf, chairman; Norbert Herrick, Elmer Kaul, William Morgan and Arthur Kornitz.

Attendance: C. Harry Adams, chairman; John Eagle, William P. Liesen, Edward Brackett and Leo Schneider.

Receptions and guests: Past Presidents: Benson, Fillbach, Kern, Ketting, Savage, Shellenberger, Schroeder, Wells and Woehrer.

Heating Wholesalers hold annual Meeting in Cleveland

ABOUT 200 MEMBERS AND GUESTS attended the annual meeting of the National Heating Wholesalers' Association, Inc., Cleveland 14, Ohio, held at the Hotel Statler, Cleveland on December 3 and 4. Morning and afternoon sessions on December 3 were confined to business sessions and committee reports for members. New officers elected were: President, Fred R. Green, Des Moines Furnace & Stove Repair Co., Des Moines, Ia.; Vice-president, George F. Wheelock, George F. Wheelock Co., Birmingham, Ala.; Secretary, Gail C. Mason, Warm Air Heating Supply, Dearborn, Mich. and Treasurer, J. E. Eckstein, Eckstein Co., Pittsburgh.

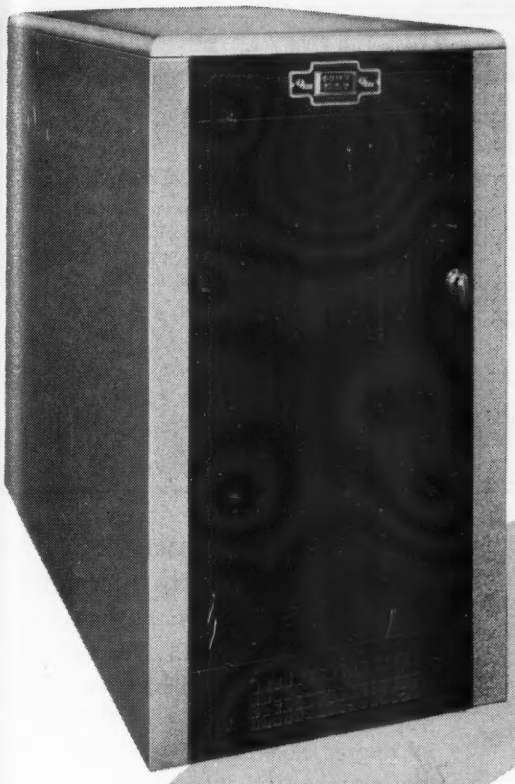
The second day's program included an afternoon open meeting that featured a panel of Government representatives, manufacturers and whole-

McCORKLE CONTROLS are designed to GIVE—not require SERVICE
for Vaporizing Oil Burners

Less service means greater customer satisfaction—increased profits—more new business

- Patented dual blade bi-metal assembly —insures trouble-free operation—supplies a wide margin of extra power.
- More rapid heat transmission.
- Adjustable snap acting Micro-switch.
- Heavier, more rugged construction.

D. H. McCORKLE CO.
Box E, Station A Berkeley, California



Quiet MAY
Boiler-Burner
Unit

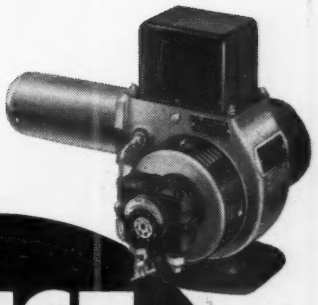
To instill confidence ...install

QUIET MAY

When you install Quiet MAY oil heating equipment, you instill the kind of confidence that keeps building your business . . . year after year.

For Quiet MAY is a respected name everywhere. On a conversion oil burner . . . on a boiler-burner unit . . . on a warm air furnace . . . it inspires your customer's confidence in the soundness of his investment. Quiet MAY's performance, end-product of 26 years of engineering advancement, unfailingly justifies that trust . . . constantly broadening public confidence in you.

Hundreds of Quiet MAY dealers have sales records to prove the point. Why not prove it to yourself?

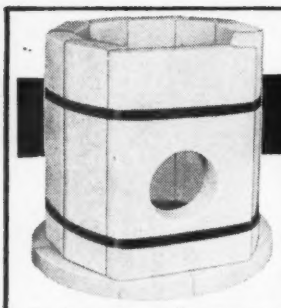


Quiet MAY
Conversion
Burner

QUIET MAY OIL BURNER

OHI

MAY OIL BURNER division of May Fuel Oil Corp., Baltimore 30, Maryland



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Equipment manufacturers are invited to bring their special design problems to us.

HIGH QUALITY

American Chambers are made from the finest, high grade refractory materials combined with proper "Kiln-curing". They will withstand 2500 degree temperatures and will not crumble in water.

EASY INSTALLATION

Controlled manufacturing and careful design of American Chambers makes for fast and easy installation. The flexible pieces fit together with a minimum of effort.

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Because of the high quality of materials used in American Chambers they provide faster heat-ups, quieter burner operation and savings in fuel.

AMERICAN

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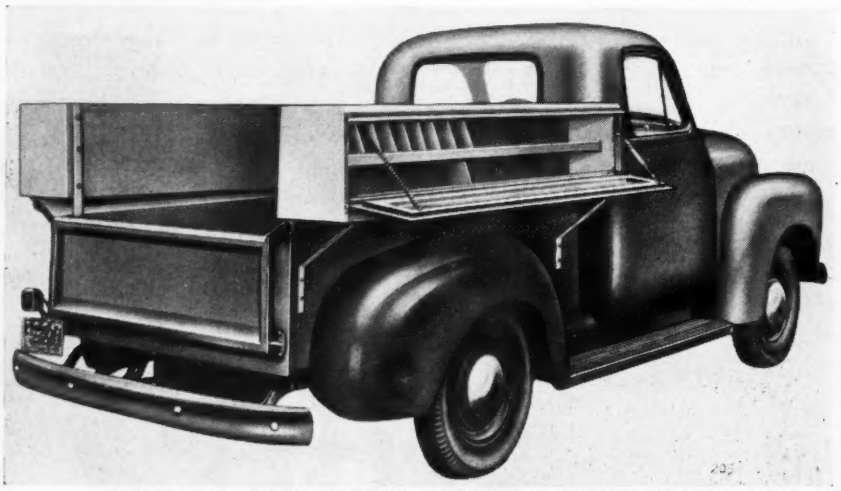
AMERICAN CLAY FORMING CO.

TIFFIN, OHIO

salers who answered questions about the lines they handle. M. B. Cafferty, assistant director and chairman of the requirements committee, Iron and Steel Division, NPA and Morgan Johnston, Heating Branch, Building Materials Div., NPA, represented the Government.

Manufacturer members of the panel included: H. M. Carnahan, American Radiator & Standard Sanitary Corp.; Carroll M. Baumgardner, National Radiator Co.; W. L. McGrath, Williamson Heater Co.; G. D. Herringa, Hart & Cooley Mfg. Co.; Walter A. Curtis, Peerless Electric Co.; P. J. Sandmaier, Republic Steel Corp.; John H. J. Pearce, Crise Controls; C. L. Rowley, Owens-Corning Fiberglas Corp.; J. F. Corrigan, Petroleum Heat and Power Co. James Martin, National Warm Air Heating and Air Conditioning Association and R. E. Ferry, Institute of Boiler and Radiator Manufacturers, appeared on behalf of their organizations.

NOW . . . CONVERT YOUR "PICK-UP"



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CRAFTSMAN UTILITY SIDE BOXES are all-steel, welded, weather-tight, with locking door handles.

WRITE, WIRE or PHONE US FOR PRICES!

STAHL METAL PRODUCTS, INC.

3490 W. 140th St., Cleveland 11, Ohio
Phone Winton 1-2377

Kansas City Oil Men hold Christmas Party

THE OIL MEN'S CLUB of Kansas City held its annual Christmas Party in the Hotel President on December 17, at which Rabbi Samuel S. Mayerberg, Congregation B'Nai Jehudah, delivered the 1951 charity address. Clark Lillis, Southern Oil Co., was chairman of the program and entertainment committee; Roy B. Glass, Socony-Vacuum Oil Co., served as chairman of the gifts committee.

Warm air short Courses described in Folder

A 4-PAGE FOLDER has been prepared on the five forced warm air heating short courses, scheduled in March and April by the National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio. The folder outlines the purpose and scope of the courses and reproduces a typical program to be undertaken during the four days that each will run. Similar courses will be given at each of the colleges where they are being held, but the lectures may vary according to locality and previous programs.

The first course was held 21 years ago at the Michigan State College and four years later the Warm Air Association became a co-sponsor. In 1949 Purdue University became the second school to hold such a course.

A charge of $20 is made at each school to cover the cost of registration, materials and miscellaneous expenses. Meals and lodging are not included. Complete details are available from the colleges or the Association at 145 Public Square, Cleveland 14, Ohio.

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Custom Built

Completely Equipped
Mounted On Your Chassis
All Styles and Capacities

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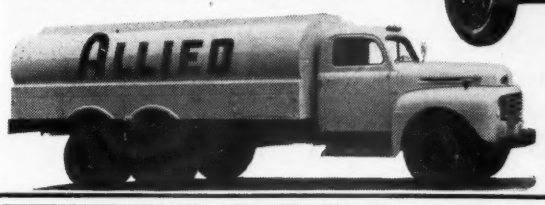

ALLIED Tank Truck Equip. Co.
24th & BROWN STS. • STEVENSON 7-1664 • PHILA. 30, PA.

The outlook is good but somewhat mixed. We need a cold winter, particularly in the East, to keep inventory values from weakening. We need margin help here and there with special emphasis on the needs of individual companies. Large companies especially need more understanding of their high operating costs, and the reasons for them. The market is sure to keep on growing, probably another 10% in number of fueloil users, so it promises a fertile field for distributors who display some merchandising imagination.

M-H System improves sleeping car Heating

A NEW, electronically-controlled heating system for railway sleeping cars that enables passengers to enjoy temperatures as comfortable as in their own homes, was recently announced by Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Circulating hot water is used, rather than steam. Heat is delivered to the car from two sources—floor units along each side of the wall and an over-head system that discharges into the room a constant flow of air heated to the proper temperature by coils over which it passes. Passengers can regulate the temperature of this incoming air.

The entire system is controlled by electronic thermostats. Passengers select the room temperature they want with a single control switch mounted on the car wall. From there on the system operates automatically. It responds immediately to temperature settings, in contrast to the sluggish, delayed action of older-type systems.

BURN-RITE OIL BURNERS

"The Masterpiece of Oil Burners"

For:

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Economy
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1 to 3 G.P.H.
Firing Rate

MODEL A

Famous

BURN-RITE Anti-Syphon Valves

Write for full details!

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- **PREVENTS Back Syphonage**
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This emblem means contentment in more than a million homes.

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Snaparound* Boiler Jackets

are now fully protected by U.S. Patent No. 2,575,069

*Consists of a series of normally flat resilient metal panels which assume cylindrical shape when wrapped around cylindrical boilers. Self-locking joints require no mechanical fasteners or screws. Compact for shipment or storage. Can readily be opened or disassembled for service without tools.

Snaparound jackets will definitely save you money. Fast deliveries assured.

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We also manufacture rectangular jackets.

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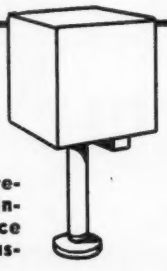
A Controlled FUEL OIL Delivery System ONLY $112.75

Pays for itself over and over — through planned efficient routing.

HEAT RECORDER UNIT

Sets neatly on desk.



HEAT MEASURING UNIT

Mounts on roof or side of building.

With a Fuel Requirement Anticipator Installed in Your Office You Know When Customers Need Oil!

An incentive for customers to sign annual fuel oil contracts. Operates on 110 volts; a simple card index is the only record required; controlled by the weather itself; not effected by power shut-down. A Fuel Requirement Anticipator guarantees your customers adequate fuel supplies at all times. Can be installed by any oil burner service man.

WRITE OR WIRE FOR FREE LITERATURE

BRESSLER ENGINEERING SERVICE

509 N. 4th Street
Oregon, Illinois

Starting A Furnace

(*Begins on page* 71)

and tests involved in a proper start-up.

There is, however, a great sales advantage to having a thoroughly good form printed up. A sales prospect considering other dealers' equipment can be impressed by the form. It brings out a dealer's thoroughness and determination to have equipment operating properly, with emphasis on dependability and fuel economy. The dealer who up to now has been tending conscientiously to start-ups can make a sales advantage of this by emphasizing it through exhibiting the form he uses.

This is important. If a dealer considers unnecessary any of the 15 items in the accompanying form, he should of course omit these items from his own form. Use of a form is aimed to speed up and systematize start-up work, not to make work which a dealer considers unnecessary. Start-up work goes faster when performed according to some system. On this point of speed and systematic working, no instructions or form the dealer prepares should require that the service man will work in a certain order, one listed item after the other. The man can see from the form what he has to do. As long as he takes every step indicated on the form and forgets none, he should be permitted to take the steps in the order he finds most convenient and speediest for him. On-the-job experiences prove that certain men, after starting to use a check-list of this type, work out systematic procedures for themselves that reduce greatly the time they previously required to make a good start-up. Certain service men have become boastful to their bosses and fellow workers, declaring for example that they usually "go through all the 15 steps, and thoroughly, in about half the time it takes a shoemaker to just start up a burner in a slip-shod manner."

The items listed in the form that accompanies this article are self-explanatory for the most part.

The Btu capacity of the furnace, filled in at the top of the form, of course, relates to the firing rate. Figure that in a modern, efficient furnace

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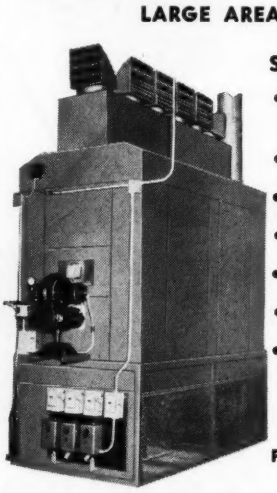
Direct Fired

SPACE HEATERS

THE MOST MODERN, ECONOMICAL AND FLEXIBLE METHOD OF HEATING LARGE AREAS



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FIRED WITH GAS OR OIL

Capacities: 200,000-2,000,000 B.T.U.
(Also Suspended Furnaces, 75,000-750,000 B.T.U.)

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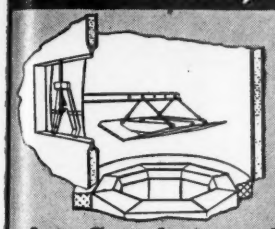
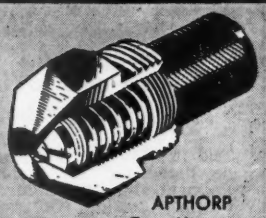
CHICAGO 17, ILL.

FOR *Quality* INSTALLATIONS



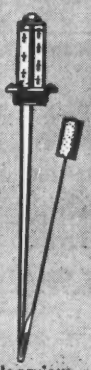
Boston Chrome Steel "HANG-DOWN" BAFFLE

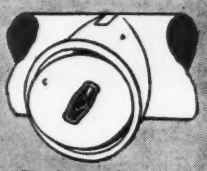


APTHORP True Alignment OIL BURNER NOZZLE

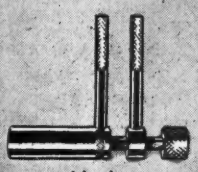
BOSMACO

Instant-Glo COMBUSTION CHAMBER





The Boston Standard DRAFT CONTROL



Ideal NOZZLE EXTRACTOR

Clearview OIL TANK GAUGE

BOSMACO Apthorp NOZZLE KIT

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BOSTON MACHINE WORKS COMPANY

Oil Heating Supplies Division, Manufacturers, Lynn, Mass.

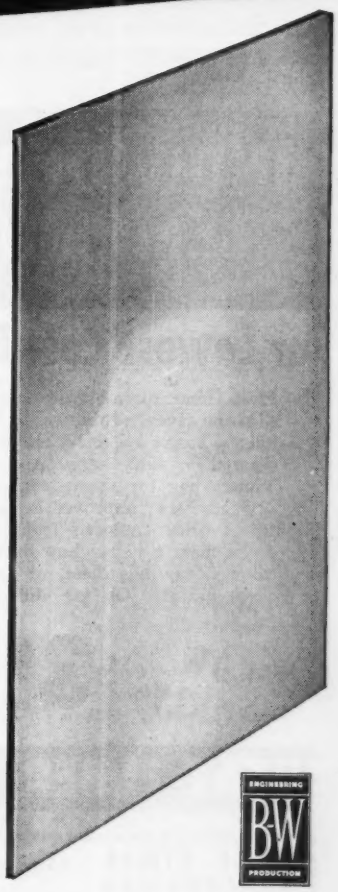
Ingersoll

HEAT-RESISTANT STAINLESS STEELS GIVE ALL FOUR!

-when used for Combustion Chambers

1. MORE QUIET BURNER OPERATION
2. CLEANER HEAT
3. BETTER TEMPERATURE CONTROL
4. CONSIDERABLE SAVINGS ON FUEL COSTS

If you are using or contemplating the use of heat-resistant stainless steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels. Whether you are a large or small user of these steels our steel making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof. Write us for additional information.



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Ingersoll STEEL DIVISION

BORG-WARNER CORPORATION

310 South Michigan Avenue, Chicago 4, Illinois

Plant: New Castle, Indiana

PORTMAR "WINDSOR" SERIES BOILERS

· Steam from 400 to 2200 sq. ft. Hot water from 640 to 3520 sq. ft.

Check these features:

- **Combined boiler and hot water heater.**
- **Tastefully designed jackets.**
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Complete line of Vertical Series boilers also available—320 to 1100 sq. ft. steam, 510 to 1760 sq. ft. hot water.

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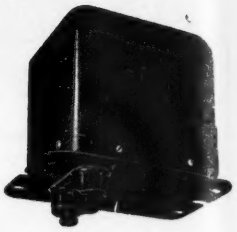
The first of all transformers to be listed by the Underwriters' Laboratories as standard for oil-burner ignition, Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan!



Voltages from 5,000 to 20,000. A variety of sizes and mountings.

WRITE FOR *Literature*

Dongan Electric Manufacturing Co.
2981 Franklin Detroit 7, Mich.
"The Dongan Line Since 1909"

slightly more than 100,000 Btu per hour are available at the bonnet (gross rating basis) for each 1.0 gph fired. On that basis, you obtain about 85,000 Btu from the furnace by firing .85 gph, for example. These things relate to another item, stack temperature, which comes later in the form. It's reassuring and inspiring to find yourself on a job where the furnace is oversize for the firing rate needed to heat the house; where, for example, you find a furnace gross, rated at 125,000 Btu per hour, but fired at 1.0 gph because this firing rate is ample for the heat losses of the house. The assurance and comfort increase when you find quiet, pulsation-free combustion, and a stack temperature below 600°, as the results of the intentional under-firing of the furnace.

Item #1 relates, among other things, to checking for a return line on an outside tank installation. Here's a believe-it-or-not that actually happened. Calling on a new dealer who had complained that the burner on an outside tank job had repeatedly lost its prime and become air-bound, this engineer representing a furnace manufacturer was told by the dealer that the trouble had been licked. Inquiring about the remedy, the engineer was told that the only thing the job needed was to run with the valve in its return line tight-closed. Closing the return line valve tightly had cured the air binding. Insisting on seeing the installation, the factory engineer found, of course, that the fuel unit on the pressure burner was set for one-line operation.

Item #2 requires electrical knowl-

INDIVIDUAL ROOM TEMPERATURES

at Lowest Cost Ever

Heat-Timer thermostatic steam radiator valves, replacing ordinary valves, assure the exact temperature wanted *in each room.* And Heat-Timers pay for themselves in fuel savings. New, improved design and lower price (reduced from $4.95) make them a better buy than ever. Your jobber has them, or can get them quickly. Or use the coupon.

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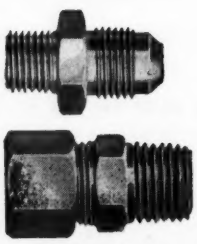

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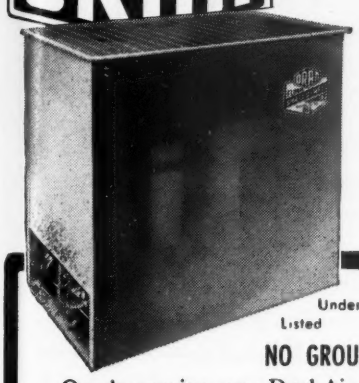
"Manufacturers and Fabricators of Aluminum and Copper Specialties and Brass Fittings"
9112 ST. CLAIR AVE. CLEVELAND 8, OHIO

ORAN offers the unique **NEW DUAL-AIR** vaporizing burner in ALL Shallo-Well Oil Fired floor furnaces



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Only 34" deep,

NO GROUND CLEARANCE NEEDED!

Oran's amazing, new Dual-Air vaporizing burner is one of the greatest advancements ever made in vaporizing-type burners. This unique unit burns smoke-free, even under adverse draft conditions, with oil savings up to 15%!

There are four Oran Shallo-Well models for small homes, to meet climatic conditions anywhere in the nation.

- 50,000 BTU output—Natural draft
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WRITE US TODAY FOR COMPLETE INFORMATION ON THESE UNIQUE SHALLO-WELL OIL-FIRED FLOOR FURNACES!

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NEW! "HANDBOOK OF OIL-BURNING"

the most authoritative text ever compiled on Oil-Burning

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IX Standards

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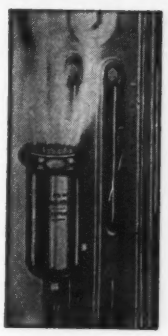
don't let LACK OF HUMIDITY spoil your heating jobs!



No. 95 AUTO-VENT installed on steam radiator in place of the usual air valve.

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Use **AUTO-VENT**

AUTOMATIC HUMIDIFIER

on low pressure steam systems

"IT VENTS AS IT HUMIDIFIES"

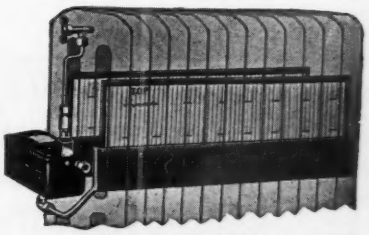
Discharges one pint of water vapor per hour at one lb. steam pressure—sufficient humidity for 2,000 cu. ft. of space. Easily regulated—quiet in operation. To install, merely remove air valve and screw in AUTO-VENT.

Made entirely from non-ferrous metals—lasts indefinitely. Thousands now in use giving perfect satisfaction.

on hot water or steam radiators use

Ol' Faithful

AUTOMATIC HUMIDIFIER



No. 34 OL' FAITHFUL installed on hot water radiator.

Equipped with patented copper bound, corrugated evaporators which vaporize as much as 1½ gal. of water daily at hot water radiator temperature of 130° — capacities 20% greater on steam radiators. Constant water line automatically maintained. Easily installed.

Supply water can be taken directly from hot water radiator, or on steam radiator from nearest water line. Made in three sizes: 18", 24" and 36" lengths. Furnished complete as shown.

Use our

CONVECTOR

Automatic Humidifier

for Concealed Convector Hot Water, Steam or Vapor Radiators. Designed to fill the demand for ample humidification where concealed convector radiators are used. Made in 10 sizes.

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Maid-O'-Mist are also manufacturers of Convector Humidifiers for all types of Warm Air Furnaces . . . Write today for literature on entire MAID-O'-MIST line.

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AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

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SEND US YOUR ORDERS OR INQUIRIES

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edge. The best oilburner service men know much more about burner controls and wiring than typical house-wiring electricians know, therefore, have the know-how to pass on this item. To put it another way, a service man who can not tell whether or not a job is wired properly (safely and in accordance with all pertinent ordinances) is not worth his salt.

Item #3 makes certain the burner is in good, safe condition in every respect. The importance of setting the spark points properly cannot be over-emphasized. Ignoring the burner manufacturer's instructions and setting the points sloppily and improperly has been, in some dealer organizations, the cause of carbon gradually building up on the points and causing spectacular "puffs" a few months after the burners were installed. Certain service men, as part of item #3, check to make certain the flexible couplings of pressure burners are installed properly; the couplings should not impose great end thrust on the motor and fuel unit bearings. Proper running clearance for the open sides of blower wheels is a big point with one service expert. He obtains quiet combustion, he says, by moving the blower so close to the fuel unit that it would rub on the blower housing casting if he moved it another 1/8" towards the fuel unit. He decreases the running clearance at the air-inlet side of the blower wheel from the 1/2" provided by the burner manufacturer to 1/8".

Item #4 checks the fuel unit to make certain its set-up matches the oil piping of the job with respect to one-line

YOU SAVE — YOU'RE SAFE with R&I Service-Proved Products

COMBUSTION CHAMBERS

Easier to Install—Last Longer

Heat Up Faster • Quiet • Cut Fuel Bills

Quick Delivery Get our Catalog and Prices

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V&E WATER TUBE BOILERS

STEEL WALL FLAME and HORIZONTAL WATER TUBE BOILERS

COMPACT — EFFICIENT — QUIET

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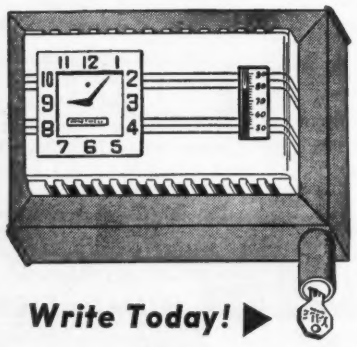
PROMPT DELIVERY FROM LOCAL STOCKS AT MOST POINTS.

V. & E. PRODUCTS, INC.

SCHUYLKILL HAVEN, PA.

Seen the new THERMOLOK models?



Now you can guard the settings on Penn, Perfex, Sampsel, Detroit Lubricator, and General Electric thermostats with new THERMOLOK models. In addition, the standard models illustrated here are designed to protect settings on Minneapolis-Honeywell thermostats and Chronotherms.

- 15 seconds to install
- No heat lock
- No holes in wall
- No nails or screws

Write for name of your nearest jobber

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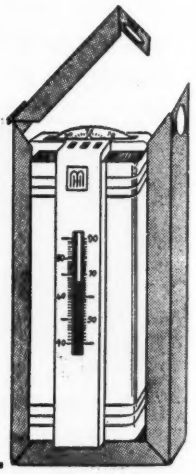

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The *right* equipment in your plant means lower operating cost. You can depend on R & M men, with their intimate knowledge of marketing methods, plus various kinds of equipment, to help you select exactly what is best for your requirements.

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Complete Equipment for the Oil Trade

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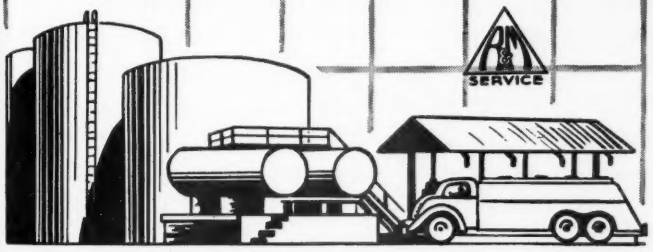
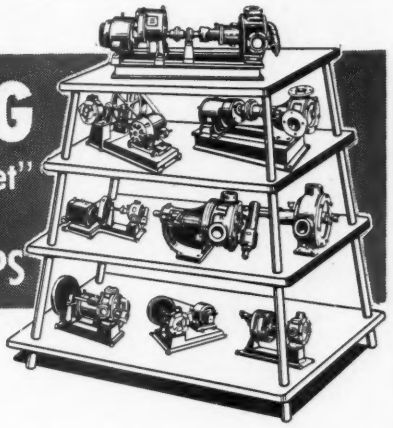


VIKING

The "Super-Market" in ROTARY PUMPS



The range in size and style of Viking pumps truly parallels the range of items found in today's super-market.

When you specify Viking, there is no compromise. They fit the job at hand.

Nowhere else can this *complete line of rotary pumps* be duplicated. When your needs must be fully met, consult Viking for the answer. To start, ask for Folder 1507EE today.

VIKING
AN HONORED NAME IN PUMPING

See Our Catalog In SWEETS

Viking PUMP COMPANY
Cedar Falls, Iowa

STOP nuisance calls with Rochester "dual-dial" GAUGES

Don't let nuisance calls eat up your time and profits!

You can easily assure years of *trouble-free* service with Rochester DUAL-DIAL Gauges. No fumes can get out to bother your customers. The solid, pressure-tight head construction provides positive *leakproof* protection—even under pressure.

You can make tank checking and filling a snap, too . . . the easy-to-read "dual-dial" can be seen from both front and back.

Featuring permanent magnetic indication, Rochester DUAL-DIALS are Underwriters' listed. More than 2½ million are now in use. They're easy to install and stocked by leading wholesalers everywhere for all standard basement oil burner storage tanks. Rochester Manufacturing Co., Inc., 8 Rockwood Street, Rochester 10, New York.

Rochester
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DIAL THERMOMETERS GAUGES AMMETERS

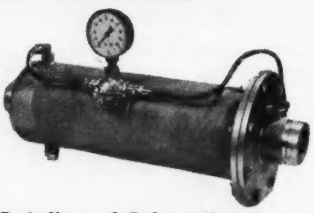
ROCHESTER DEPENDABLE ACCURACY GAUGES

SELL FILTERED FUEL OIL

Micronic Filtration Without Expensive Alteration to Your Tank Truck!

Look at the advantages in customer sales appeal along with savings in maintenance costs:

- **Increases customer satisfaction.**
- **Reduces service calls.**
- **Protects truck equipment.**



Write For Details and Prices Now!

COOTE

CHAS. W. M. COOTE CO., INC.
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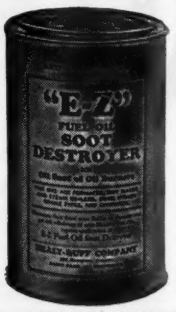
E-Z Extra PROFIT

Soot Destroyer



(For fuel oil soot only.) Keep a supply on every Service Truck. Sell cleaning jobs. Use *E-Z*. One application does a thorough soot cleaning job. Saves time. Pays extra profit. Sell one-lb. cans to customers. If your Distributor cannot supply you, order direct.

No. 1 Pkg. approx. 1 lb. . . . List $1.00 ea.
No. 5 Pkg. approx. 5 lbs. . . List $4.50 ea.

Special discount to Distributors on quantities.

HEALY-RUFF COMPANY
797 Hampden Avenue • St. Paul 4, Minnesota

or two-line operation. The service expert gains many points of information as he studies the burner operation while running the motor and air-ridding the fuel unit.

Item #5 concentrates on proper installation and performance of the combustion chamber, and on locating and sealing those all-important, fuel-wasting air leaks.

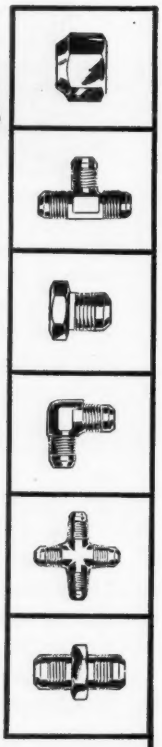
Item #6 recommends use of a pressure gage to check the atomizing pressure. Testing about eight burners using a pressure gage one afternoon, we caused a service man to complain to his boss, as they both saw that the different fuel units gave from 80 to 115 lbs. pressure.

"And you've been telling me right along that these fuel units come from the factory all set for exactly 100 lbs. pressure," the service man told his boss. "Now will you pay for a pressure gage and let me use it on every job?"

We told the service man to tune some 3.0 gph job for exactly 100 lbs. atomizing pressure, and then to try a 1.0 gph nozzle on the job for the fun of it, to see if switching to a different size nozzle altered the atomizing pressure. As he receives them, most the fuel units he works on may give 100 lbs. pressure only when providing oil for some certain size nozzle.

Following the instructions sent out with the low-capacity furnaces he installs, one service man always painstakingly adjusts for exactly 80 lbs. atomizing pressure, explaining that the furnace manufacturer's idea is to reduce nozzle clogging.

For a FITTING CONNECTION of long standing select MADDEN BRASS



For trouble-free service and ease of installation install Madden commercial and industrial fittings and flare nuts. They are precision machined of forged brass and extruded rods.

Write for free catalog of the complete Madden fitting and accessory line.

MADDEN BRASS PRODUCTS CO.

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NEW SKINNER DEVELOPMENT for Domestic Oil Burners

NEW V2-500 TIME DELAY VALVE

HELPS ELIMINATE SOOT & BACKFIRES
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SMALL & COMPACT WEIGHT ONLY 9 OZ.
★
SAFE & SURE
★
SAVES FUEL
★
UNDERWRITERS' APPROVED
★
LOW COST
★
PROMPT DELIVERY

This outstanding new Skinner development promises new customer satisfaction whether installed on new or old oil burners. The V2-500 operates as follows: After blower, motor and pump start, the valve delays 5 to 6 seconds before releasing oil. At end of heating cycle, valve closes instantly preventing combustion while motor, pump and fan coast to a stop. This assures adequate air volume at start of combustion cycle, improves draft and helps eliminate sooty conditions. Valve is two-way normally closed; rated at 115 p.s.i. max. Coil is continuous duty rated at 9 watts max. Write for details and low prices!

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
141 Belden Ave., Norwalk, Conn.